

**YOUNGSTOWN STATE UNIVERSITY BULLETIN
GRADUATE EDITION
2012–2014**

EFFECTIVE AUGUST 2012
YOUNGSTOWN, OHIO

Youngstown State University reserves the right to change without notice any statement in this bulletin concerning, but not limited to, rules, policies, tuition, fees, curricula, and courses.

The YSU Graduate Bulletin is a two-year publication. Any new program updates are published in the 2013 Graduate Bulletin Supplement, which is available on the School of Graduate Studies and Research website.

Youngstown State University is committed to a campus environment that values all individuals and groups, and to nondiscrimination and equal opportunity for all persons. No member of the University shall discriminate against another on the basis of sex, race, religion, color, age, national origin, sexual orientation, gender identity and or/expression, disability, or veteran status or any other basis protected by law. The University is also committed to the principles of affirmative action and acts in accordance with state and federal laws.

Inquiries should be addressed to Youngstown State University's director of Equal Opportunity and Diversity, who is responsible for coordinating the University's programs for compliance. Inquiries can be initiated in writing or by calling (330) 941-3370.

Youngstown State University
Graduate Bulletin

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EFFECTIVE AUGUST 2012

School of Graduate Studies and Research
Youngstown State University
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Youngstown, OH 44555

CONTENTS

Ohio Board of Regents, YSU Board of Trustees, and Executive Officers	4
Academic Calendar 2012–2013	5
General Information	7
Research at YSU	23
The School of Graduate Studies and Research	26
Student Fees, Charges, and Fines	38
State Residency Status	45
Financial Assistance	49
Course Numbering System, Abbreviations, and Reference Marks	53
Graduate Programs	54
Doctor of Education in Educational Leadership	54
Doctor of Philosophy in Materials Science and Engineering	58
Doctor of Physical Therapy	61
Master of Arts in American Studies	63
Master of Arts in Art Education	66
Master of Arts in Economics	69
Master of Arts in English	71
Master of Arts in Financial Economics	74
Master of Arts in History	76
Master of Arts in Interdisciplinary Communication	79
Master of Business Administration	82
Master of Computing and Information Systems	85
Master of Fine Arts in Creative Writing	87
Master of Health and Human Services	90
Master of Music	93
Master of Public Health	98
Master of Respiratory Care	101
Master of Science in Applied Behavior Analysis	103
Master of Science in Biology	105
Master of Science in Chemistry	108
Master of Science in Criminal Justice	110
Master of Science in Environmental Studies	112
Master of Science in Mathematics	116
Master of Science in Education—Counseling	119
Master of Science in Education—Educational Administration	126
Master of Science in Education – Educational Specialist in School Psychology	132
Master of Science in Education—Educational Technology	135
Master of Science in Education—Special Education	137
Master of Science in Education—Teacher Education	141
Master of Science in Engineering	147
Master of Science in Nursing	154
Master of Social Work	160
Graduate Certificates	165
Autism Spectrum and Related Disabilities	165
Enterprise Resource Planning	166
Environmental Studies	167
Health Care Management	169
Literature for Children and Young Adults	170
Nurse Education	171
Professional Writing and Editing	172
Teaching English to Speakers of Other Languages (TESOL)	173
Teaching of Writing	174
Courses	175
University Policies	263
Graduate Faculty	265
Index	278

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ACADEMIC CALENDAR 2012–2013

FALL 2012

July 15	Sun.	Last day to apply for graduate admission*
Aug. 21	Tues.	Open registration for current, reactivated former, transfer, transient, and graduate students ends
Aug. 22	Wed.	Fall term begins
Aug. 29	Wed.	Last day to add courses
Sept. 3	Mon.	University closed—legal holiday (Labor Day)
Sept. 14	Fri.	Last day to apply for fall graduation
Oct. 27	Sat.	Last day to withdraw with a grade of W
Nov. 12	Mon.	University closed—legal holiday (Veteran's Day)
Nov. 22	Thurs.	University closed—legal holiday (Thanksgiving)
Nov. 23	Fri.	University closed—legal holiday (Columbus Day observed)
Nov. 26	Mon.	Thanksgiving academic break ends
Dec. 10	Mon.	Final examinations begin
Dec. 10	Mon.	Deadline to submit theses to the School of Graduate Studies and Research
Dec. 16	Sun.	Fall term ends
Dec. 16	Sun.	Fall commencement

SPRING 2013

Nov. 19	Mon.	Open registration for current, reactivated former, transfer, transient, and graduate students begins
Dec. 15	Sat.	Last day to apply for graduate admission*
Dec. 24	Mon.	University closed—legal holiday (President's Day observed)
Dec. 25	Tues.	University closed—legal holiday (Christmas Day)
Jan. 1	Tues.	University closed—legal holiday (New Year's Day)
Jan. 11	Fri.	Open registration for current, reactivated former, transfer, transient, and graduate students ends
Jan. 14	Mon.	Spring term begins
Jan. 21	Mon.	University closed—legal holiday (Martin Luther King Day)
Jan. 22	Tues.	Last day to add courses
Feb. 1	Fri.	Last day to apply for spring graduation
Mar. 11	Mon.	Spring break begins
Mar. 17	Sun.	Spring break ends
Mar. 28	Thurs.	Last day to withdraw with a grade of W
May 6	Mon.	Final examinations begin
May 6	Mon.	Deadline to submit theses to the School of Graduate Studies and Research
May 12	Sun.	Spring term ends
May 18	Sat.	Spring commencement

SUMMER 2013

Apr. 19	Fri.	Open registration for current, reactivated former, transient, and graduate students begins
Apr. 15	Mon.	Last day to apply for graduate admission*
May 17	Fri.	Open registration for current, reactivated former, transient, and graduate students ends
May 20	Mon.	Full term and first six-week term begins
May 27	Mon.	University closed—legal holiday (Memorial Day)
May 28	Tues.	Last day to add courses for full term and first six-week term
June 7	Fri.	Last day to apply for summer graduation
June 13	Thurs.	Last day to withdraw with a grade of W for first six-week term
June 17	Mon.	Middle six-week term begins

*Certain programs may have earlier deadlines.

June 24	Mon.	Last day to add courses for middle six-week term
June 30	Sun.	First six-week term ends (final examinations are given during the last scheduled class period)
July 4	Thurs.	University closed—legal holiday (Independence Day)
July 1	Mon.	Second six-week term begins
July 8	Mon.	Last day to add courses for second six-week term
July 11	Thurs.	Last day to withdraw with a grade of W for middle six-week term
July 25	Thurs.	Last day to withdraw with a grade of W for second six-week term
July 28	Sun.	Middle six-week term ends
Aug. 11	Sun.	Full term and second six-week term end (final examinations are given during the last scheduled class period)
Aug. 12	Mon.	Deadline to submit theses to the School of Graduate Studies and Research
Aug. 17	Sat.	Summer commencement

FALL 2013

July 15	Mon.	Last day to apply for graduate admission*
Aug. 20	Tues.	Open registration for current, reactivated former, transfer, transient, and graduate students ends
Aug. 21	Wed.	Fall term begins
Aug. 28	Wed.	Last day to add courses
Sept. 2	Mon.	University closed—legal holiday (Labor Day)
Sept. 13	Fri.	Last day to apply for fall graduation
Oct. 26	Sat.	Last day to withdraw with a grade of W
Nov. 11	Mon.	University closed—legal holiday (Veteran's Day)
Nov. 28	Thurs.	University closed—legal holiday (Thanksgiving)
Nov. 29	Fri.	University closed—legal holiday (Columbus Day observed)
Dec. 2	Mon.	Thanksgiving academic break ends
Dec. 9	Mon.	Final examinations begin
Dec. 9	Mon.	Deadline to submit theses to the School of Graduate Studies and Research
Dec. 15	Sun.	Fall term ends
Dec. 15	Sun.	Fall commencement

* *Certain programs may have earlier deadlines.

GENERAL INFORMATION

DESIGNING OUR FUTURE IN THE 21ST CENTURY: THE CENTENNIAL STRATEGIC PLAN OF YOUNGSTOWN STATE UNIVERSITY

MISSION STATEMENT

Youngstown State University, an urban research university, emphasizes a creative, integrated approach to education, scholarship, and service. The University places students at its center; leads in the discovery, dissemination, and application of knowledge; advances civic, scientific, and technological development; and fosters collaboration to enrich the region and the world.

The University

- Creates diverse educational experiences that develop ethical, intellectually curious students who are invested in their communities;
- Provides access to a broad range of undergraduate programs;
- Offers graduate programs in selected areas of excellence, including those that meet the needs of the region;
- Supports economic development through applied learning and research;
- Integrates teaching and learning, scholarship, and civic engagement;
- Fosters understanding of diversity, sustainability, and global perspectives; and
- Advances the intellectual and cultural life of the city, region, and world.

CORE VALUES

We—the faculty, staff, administrators, and students of Youngstown State University—hold the following values essential to achieving the University’s mission:

Centrality of Students. We are a student-centered institution committed to the education, development, well-being, and success of students of all ages and from all walks of life. In concert with our mission to help students grow intellectually, we strive to foster their personal, social, emotional, and career growth, as well as their capacities for lifelong learning, civic responsibility, and leadership.

Excellence and Innovation. We value excellence and innovation inside the classroom and out. Thus, we strive to integrate curricular and co-curricular activities; to offer outstanding academic programs; to foster intellectual inquiry, exploration, and discovery; to transcend traditional boundaries; to apply and perfect knowledge; to encourage creativity; to provide effective tools, technologies, and facilities for learning; and to excel in research and scholarly activity, including the “scholarship of teaching and learning,” an area of research that explores how individuals teach and learn.

Integrity/Human Dignity. As a campus community, we expect all conduct to be rooted in integrity, mutual respect, and civility. We value ethical behavior in scholarly and other endeavors; believe in the dignity and worth of all people; strive to foster an appreciation of, and respect for, differences among the human race; and celebrate the diversity that enriches the University and the world.

Collegiality and Public Engagement. As scholar-citizens of many extended and interconnected communities, we pledge to work collegially and cooperatively to enrich the cultural environment; establish productive partnerships; provide responsible leadership; address community and workforce needs; foster sustainability; and bring about the greater good of the collective whole be it the University, the city of Youngstown, the state of Ohio, the region, or beyond.

VISION STATEMENT

Youngstown State University will become a national model for university-community engagement that enhances teaching and learning, student and faculty research, and community well-being. The University will expand its regionally focused mission to include national and international emphases, while working with other colleges and universities, business and industry, and the K-12 community to stimulate the economic, technological, and cultural rebirth of Ohio.

This vision will be supported by:

- Leading scholars and practitioners using multidisciplinary approaches to address societal challenges;
- Engagement of undergraduate and graduate students in research;
- Strategic development of undergraduate and graduate programs;
- Curricular and co-curricular integration of professional and liberal education, problem-solving, critical thinking, and communication skills;
- An emphasis on applied learning and community engagement; and
- Respect for the deep and rich diversity of the communities we serve.

YSU 2020 THE FOUR CORNERSTONES

YSU 2020: The Strategic Plan of Youngstown State University 2011-2020, adopted by the YSU Board of Trustees in December 2010, is based on four critical guideposts or “cornerstones”:

Accountability and Sustainability

Accountability and sustainability entail aligning the University’s resources and investments to meet broad strategic goals and maintain institutional vitality.

Student Success

Student success is defined as “academic achievement, satisfaction, and productive post-college performance.”

Urban Research University Transition

Youngstown State University contributes to the development and application of knowledge for the betterment of students and, thus, the communities in which they live and work. The University strives to improve the quality of life in the region and is the primary link to the global community. As an urban research university, YSU is guided by three core principles:

- Faculty research and scholarship are integrated into teaching and learning to improve graduate and undergraduate student experiences;
- YSU answers important questions and solves real problems by sharing information, expertise, and resources with the community;
- YSU invests in research, academic, and other programs that enrich the intellectual, cultural, and economic life of the community.

Regional Engagement

Regional engagement refers to activities that enhance the quality of life, well-being, and economic development of communities in and around Youngstown and the surrounding region. YSU has a positive impact on the region through active mutual engagement, not merely by existence.

The YSU 2020 document and related web pages are available at <http://web.yzu.edu/2020>.

HISTORY

Youngstown State University is in downtown Youngstown, an industrial center in northeastern Ohio midway between Pittsburgh and Cleveland.

Youngstown State University traces its beginnings to a commercial law course offered by the Young Men's Christian Association in 1908. The YMCA had offered high school level and vocational courses since 1888, but wanted to meet the college-level needs of area residents in a society undergoing rapid industrialization and urbanization. The "Y" offered courses on law, business, and engineering, and in 1910 even instituted a School of Law that granted no degree but prepared students to take the bar exam. In 1916, the YMCA incorporated all of its educational work under the Youngstown Association School.

By the early 1920s, the Ohio Board of Education granted the School of Law the power to confer the Bachelor of Science in Law degree and in 1924 the School of Commerce and Finance the right to confer the bachelor's degree in commercial science. The YMCA also offered courses to prepare teachers for certification, a program that evolved by 1927 into a separate school named Youngstown College and recognized by the State Department of Education. Throughout the 1920s, the schools of law and commercial science were called the Youngstown Institute of Technology, which began a move from downtown to the present location with the purchase of several mansions owned by the Wicks.

In 1931, the YMCA constructed its first building, the present-day Jones Hall, and appointed Howard Jones as the educational director. By the mid-1930s, the Board of Directors decided to incorporate with the official name of Youngstown College separate from the other "Y" educational efforts; they appointed Howard Jones as the first president, a position he held until 1966.

In 1944, the trustees of the Young Men's Christian Association transferred control of the institution to the members of the Corporation of Youngstown College, and in 1955 the corporation was rechartered as The Youngstown University. The University joined the Ohio system of higher education in September 1967 as Youngstown State University.

Dana's Musical Institute, founded in nearby Warren in 1869, became Dana's Musical Institute of Youngstown College in 1941. In 1946, the Engineering Department, organized several years before, became the William Rayen School of Engineering; two years later, the Business Administration Department became the School of Business Administration; and in 1981 the school name was changed to the Warren P. Williamson, Jr. School of Business Administration. In 1960, the Education Department became the School of Education.

The Graduate School and College of Applied Science and Technology were created in 1968, and in 1974 the College of Fine and Performing Arts was established.

In 1972, Youngstown State University with the University of Akron and Kent State University formed a consortium to sponsor the Northeastern Universities College of Medicine, which enrolled its first students in 1975.

In 1991, the engineering technology departments separated from CAST and joined the new College of Engineering and Technology; the remaining departments formed the new College of Health and Human Services.

In 2007, the Rayen College of Engineering and Technology incorporated the science and mathematics departments from the College of Arts and Sciences. This reorganization linked science, technology, engineering, and mathematics in the College of STEM and the humanities and social sciences in the College of Liberal Arts and Social Sciences (CLASS).

Youngstown State University now consists of the School of Graduate Studies and Research and six undergraduate colleges: the Williamson College of Business Administration; the Beeghly College of Education; the College of Fine and Performing Arts; the Bitonte College of Health and Human Services; the College of Liberal Arts and Social Sciences; and the College of Science, Technology, Engineering, and Mathematics. Degrees offered range from the associate, bachelor's, and master's to a doctorate in educational leadership, a Doctor of Physical Therapy, and a Doctor of Philosophy in Materials Science and Engineering.

A coeducational institution, YSU had an enrollment of 300 students in 1930, which grew to 2,000 in the 1940s, tripled by the 1950s, reached 10,000 in the mid-sixties, and totaled more than 15,000 in 1986. As of fall 2012, enrollment stood at 13,813.

ACCREDITATION

Youngstown State University is accredited by the Higher Learning Commission and a member of the North Central Association. Please visit <http://www.ncahlc.org/> or call (312) 263-0456 for additional information.

Programs within the individual colleges may be further accredited by their respective professional bodies. Those accreditations are listed in the program descriptions.

ASSESSMENT

YSU is committed to providing an effective assessment process that supports student learning, improves academic programs, and enables YSU to provide exemplary services to all constituents. To sustain the University's continuous improvement on all levels, the Office of Assessment collaborates to design and coordinate regular and ongoing assessment of student learning outcomes with each academic department in the six colleges for each degree program, with the Office of General Education for the general education program, and with non-academic units in ongoing efforts to document student success. A systematic feedback loop also enables both academic and non-academic units to share information about student learning with students, faculty, staff, and appropriate organizations. All information is shared in aggregate form only, and confidentiality of individual students is safeguarded. If assessment information is shared beyond the internal efforts of program improvement or accreditation, departments and the Office of Assessment abide by the Human Subjects Research Committee guidelines at YSU.

DEGREES GRANTED

YSU grants the degrees of Doctor of Education, Doctor of Philosophy, Doctor of Physical Therapy, Master of Arts, Master of Business Administration, Master of Computing and Information Systems, Master of Fine Arts, Master of Health and Human Services, Master of Music, Master of Public Health, Master of Respiratory Care, Master of Science, Master of Science in Education, Master of Science in Education/Educational Specialist, Master of Science in Engineering, Master of Science in Nursing, Master of Social Work, Bachelor of Arts, Bachelor of Engineering, Bachelor of Fine Arts, Bachelor of General Studies, Bachelor of Music, Bachelor of Science, Bachelor of Science in Applied Science, Bachelor of Science in Business Administration, Bachelor of Science in Education, Bachelor of Science in Nursing, Bachelor of Science in Respiratory Care, and Bachelor of Social Work. A broad selection of two-year programs leads to the degrees of Associate of Arts, Associate of Applied Science, Associate of Labor Studies, and Associate of Technical Study.

EQUAL OPPORTUNITY AND AFFIRMATION ACTION POLICY

Youngstown State University is committed to a campus environment that values all individuals and groups, and to nondiscrimination and equal opportunity for all persons without regard to sex, race, religion, color, age, national origin, sexual orientation, gender identity and/or expression, handicap/disability, or identification as a disabled and/or Vietnam Era veteran. The University is also committed to the principles of affirmative action and acts in accordance with state and federal laws.

Although the ultimate responsibility for maintaining a viable and effective affirmative action program rests with the president of the University, the key role in its execution is delegated to the director of Equal Opportunity and Diversity, who periodically reviews the program, discusses grievances and charges of discrimination, if any, and makes recommendations toward the program's effectiveness.

The University uses all normal means of communication to make known its policies of equal opportunity and affirmative action.

THE CAMPUS

CAMPUS DEVELOPMENT

During its earlier years, the institution had a number of homes. Starting in the old Central YMCA building, it occupied various sites on Wick Avenue until the completion of Jones Hall in 1931. Additional buildings have been constructed and nearby properties converted to University use, so that today the campus extends through most of an area five blocks long and four blocks wide, covering 150 acres. The University also has 118.4 acres in Hartford Township.

ALL-SPORTS COMPLEX, STAMBAUGH STADIUM

Located on an 18-acre site adjacent to Beeghly Physical Education Center, the All-Sports Complex includes Arnold D. Stambaugh Stadium and Beede Field, an artificial-turf sports field for football and soccer with seating for more than 20,630 spectators, officials' dressing rooms, varsity athletic offices, classrooms, racquetball courts, gymnasiums, weight rooms, and facilities for various other health and physical education activities.

Atop the stadium and overlooking the city of Youngstown is the DeBartolo Stadium Club. The club provides meeting and dinner/party seating for 220 people and is available to campus and community organizations or individuals. For reservation information, please call the Office of Alumni and Events Management at (330) 941-3497.

The complex also includes ten hard-surfaced and lighted tennis courts.

The Watson and Tressel Training Site (WATTS) is an indoor athletic facility containing a 300 meter competition track, a full-size football field, batting cages, a putting green, and locker rooms. This facility allows for year-round training for all athletic programs, as well as a competition site for the track and field teams.

Other Sports Facilities. Currently, in addition to Beeghly Center and the All-Sports Complex, the physical education, athletic, and intramural programs use the athletic fields and well-equipped sports centers in Mill Creek Park; Evans Field, Cene Park, and Cafaro Field for baseball; Harrison Field in Smoky Hollow and McCune Park for softball; and for other activities, the Holiday Bowl in Struthers, the Henry Stambaugh Golf Course on Youngstown's North Side, and the par 3 golf course in Mill Creek Park.

ANDREWS RECREATION AND WELLNESS CENTER

YSU's state-of-the-art Andrews Recreation and Wellness Center is a 70,000 sq. ft. facility that includes a 12,000 square foot cardio fitness and free weight area offering over seventy pieces of cardio fitness equipment, including treadmills, ellipticals, a variety of cycles, steppers, and rowers, as well as a ten-station cardio theater, which accommodates forty machines. The free weight area holds twenty-four selectorized weight-training machines and a combination of forty plate-loaded and free-weight stations.

In addition, the Center holds an 18,500 square foot sports forum, which includes four multipurpose courts with intended use for basketball, volleyball, badminton, and a host of other activities. The facility also boasts a 3,200 square foot aerobics and multipurpose gymnasium designed to accommodate classes taught by certified instructors specifically to condition, sculpt, and tone. A meditation center provides a quiet space for students, faculty, and staff to reflect, relax, and contemplate.

The Center also offers a wellness component designed to promote healthy lifestyle choices through comprehensive programming in the areas of fitness, nutrition, and mental and spiritual health.

Also housed in YSU's new student recreation and wellness center is a climbing wall, towering at fifty-three feet., making it one of the tallest climbing walls in the state of Ohio. Activities for this area include climbing, rappelling, and bouldering. Our professionally trained staff provides a short, mandatory class to prepare patrons for climbing.

Only a currently validated YSU I.D. is required for entrance to the new Andrews Student Recreation and Wellness Center. All programs and activities offered in the Center are available to the YSU student population at no additional cost. The hours of operation are Monday through Thursday, 6:30 a.m. to 10:30 p.m., Friday 6:30

a.m. to 9:00 p.m., and Saturday and Sunday, 10:00 a.m. to 6:00 p.m.

BEEGHLY HALL

The four-story, 96,600 square foot Beeghly Hall opened in the fall of 1998 to serve as the College of Education building.

On the main floor are the main north/south entrance and access, dean's suite, Wilcox Curriculum Resource Center, Child Study Center, and the 400-seat multipurpose and multimedia McKay Auditorium.

The Beeghly College of Education building includes the following:

- an interactive distance-learning classroom
- a classroom of the future
- the Instructional Technology Center (ITC)
- Macintosh- and Windows-based computer labs
- the Curriculum Resource Center
- a counseling clinic
- a child-study center
- testing office

BEEGHLY PHYSICAL EDUCATION CENTER

In this building, first occupied in 1972, are the Department of Human Performance and Exercise Science and the Olympic sports offices and facilities. In addition to a gymnasium with seating for over 6,900 spectators and an olympic-size swimming pool, it contains faculty offices, twelve classrooms, laboratories for research and kinesiology, physical education for handicapped students, a dance studio, a rifle range, and a fitness center.

BLISS HALL

Housing the College of Fine and Performing Arts, Bliss Hall, completed in 1977, was named in memory of William E. Bliss, a prominent area industrialist. Bliss Hall's facilities include the 390-seat Ford Theater, named for the Ford family, and the 220-seat Bliss Recital Hall. Facilities for the Art Department include a photography studio with thirty-two enlargers; a metals studio; fully equipped drawing, printmaking, sculpture, and painting studios; two Mac-based graphic design laboratories; ceramics studios with gas, electric, raku, and salt kilns; a complete shop with heavy equipment for working in three-dimensional design; a foundry and metal fabrication area with an industrial induction furnace; woodshop; art gallery; a 3D visualization laboratory and an exterior work court. Facilities within the Communication area include a video production enterprise, and the Bliss Hall TV studio, where "Homework Express," an after-school television program, is aired live two days a week. Facilities for the Dana School of Music include eighty music practice rooms equipped with Steinway studio or grand pianos; a Schlicker performance organ and two Flentrop practice organs; thirty faculty office/studios; various classroom and rehearsal spaces; four music libraries; two media labs; and a professional recording studio. Facilities within the Theater and Dance area include complete costume and scenery shops, theater rehearsal rooms, and Spotlight Arena Theater, an experimental theater with flexible seating for up to 150.

CUSHWA HALL

Opened in 1976, this structure houses the Bitonte College of Health and Human Services, as well as Media and Academic Computing, WYSU-FM, and the Peace Officer Training Academy. One of the largest buildings on campus, it contains twenty-three classrooms, forty-three laboratories, 177 offices, and two lecture halls.

DEBARTOLO HALL

First occupied in 1978, DeBartolo Hall houses the departments of Economics, English, Philosophy and Religious Studies, Political and Social Science, Psychology, Sociology and Anthropology, and the Africana studies and women's studies programs. Also housed in DeBartolo Hall is the Center for Peace and Conflict Studies. In this six-story structure are over 165 offices for faculty and staff, five student lounges and study areas, fifteen classrooms, fifteen laboratories, a computer terminal room, a 200-seat lecture hall with stage, and special varied laboratories for the Department of Psychology.

FEDOR HALL

Fedor Hall is located on the west side of Elm Street. It was constructed in 1949 and purchased from the Youngstown Board of Education in September 1965. A \$1,100,000 renovation project was completed in 1992. It houses the student newspaper, the Wee Care Day Care Center, the Rich Autism Center, Youngstown Early College, and general-purpose classrooms.

HISTORIC BUILDINGS

Listed in the National Register of Historic Places in recognition of their representing important eras in Youngstown's development, these two buildings are in the Wick Avenue Historical District. Renovation efforts were dedicated to maintaining the visual, architectural, and physical character of these structures while recognizing, identifying, and preserving their heritage.

Alumni House. The Office of Alumni and Events Management is housed in the oldest building on campus, built in 1893, and was originally the home of the Myron Israel Arms Family. It is located on the corner of Wick Avenue and University Plaza. The YSU Foundation occupies the second floor.

Coffelt Hall. This two-story brick building, located on the north side of University Plaza, was constructed in 1933, remodeled in 1978, renovated in 1986, and renovated in 2010 to house the School of Graduate Studies and Research.

JONES HALL

One of the oldest buildings on the present campus is Howard W. Jones Hall, a limestone structure of conventional Tudor style on the northwest corner of Wick and Lincoln avenues. Built in 1931 and long the institution's "main building," it was renamed in 1967 to honor the man whose energy and acumen during his thirty-six years as president brought an embryonic college to membership in the state university system.

The structure was enlarged in 1949 by the addition of the C. J. Strouss Memorial Auditorium, named for the then president of the Strouss-Hirshberg Company, a friend and trustee of the University. In 1978, the interior was completely remodeled to accommodate administrative offices. Jones Hall currently houses the Offices of Career and Counseling Services, Payroll, Accounting, Human Resources, Budget, Enrollment Management, and Records.

KILCAWLEY CENTER

Kilcawley Center is the community center of the University. The Center's facilities and services include numerous restaurant areas, lounges, sixteen conference and multipurpose rooms, two computer training rooms, bank, ATM machines, graphic services, candy counter, copy services, stage and entertainment areas, a billiards recreation area, a travel agency, fax service, campus locker rentals, the University's lost and found, and the Center's reservations and conference services office. Kilcawley Center also includes the YSU Bookstore, computer labs, U.S. mail drop, campus information center, catering offices, and the Center's staff offices. Student organization mailboxes, and offices of Student Government, Student Life, and student organizations are located in Kilcawley, as is the Center for Student Progress. The Andrews Student Recreation and Wellness Center can be accessed through the west wing of the Center, and Kilcawley House is adjacent to the east wing of the Center.

LINCOLN BUILDING

The Lincoln Building, on the corner of Lincoln Avenue and Phelps Street houses the Department of Mathematics and Statistics. Also residing in this building are the offices of the Metro Credit and Distance Learning.

WILLIAM F. MAAG, JR. LIBRARY

The University's six-story William F. Maag, Jr. Library, completed in 1976, provides an attractive, comfortable, and technologically sophisticated environment for study and research. A member of the OhioLINK consortium that coordinates access to the collections of all of Ohio's public and private higher education institutions, Maag Library provides access to a combined collection of over forty-million items with nearly a million items on-site, a

world-class collection of scholarly journals in electronic format, and a wide array of secondary sources.

MELNICK HALL

Melnick Hall is the home of The Rose Melnick Medical Museum. The Museum houses thousands of medical artifacts consisting of instruments, equipment, and research materials documenting the history of medicine, dentistry, pharmacy, and nursing with a local focus. The Museum displays permanent and changing exhibits on the history of medicine, offers lectures on various medical topics, and serves as a research facility and gathering place for the medical community and the general public.

MESHEL HALL

Meshel Hall, dedicated January 1986, houses expanded facilities for academic and administrative computer use that broaden Youngstown State University's educational programs. The state-of-the-art center is for instruction, research, and application in advanced computer technology that serves the entire University community.

The four-story steel, concrete, stone, and glass structure contains 90,100 square feet of space and is located to the west of the Wick Avenue Parking Deck with its main access and entry by the pedestrian walkway over Wick Avenue. The building contains five classrooms, ten specialized computerized laboratories, and twenty-three faculty offices. The Office of Student Accounts and University Receivables, the Office of Financial Aid and Scholarships, and the Enrollment Center are located on the second floor. The Department of Computer and Information Systems is located on the third floor. The fourth floor houses the University's main computer facilities and Computer Center staff.

JOHN J. McDONOUGH MUSEUM OF ART

The John J. McDonough Museum of Art, located on Wick Avenue between Bliss Hall and Meshel Hall, opened for the fall quarter of 1991. The 14,000 square foot multilevel building exhibits faculty and student artwork that in the past has been displayed in the Bliss Art Gallery and the Kilcawley Center Art Gallery. It also exhibits works by artists from other universities as well as local and regional artists and serves the academic program of the Art Department with shows and competitive exhibits. The museum has the following spaces and functions: installation gallery, traditional galleries, art lecture hall, work/preparation area, storage (vault area), public lobby and restrooms, offices, loading dock and receiving area, and the necessary mechanical and electrical equipment spaces.

MOSER HALL

Moser Hall, a five-level structure completed in 1967, houses the College of Science, Technology, Engineering, and Mathematics. In addition to forty-nine laboratories, eleven classrooms, two research and development rooms, seven conference rooms, and seventy-six offices, it contains the 200-seat state-of-the-art Schwebel Auditorium. A \$6,873,000 renovation project was completed in fall 1996. Moser Hall also houses the Clarence R. Smith Mineral Museum.

PHELPS BUILDING

The Phelps Building, located on the corner of Lincoln Avenue and Phelps Street on campus, houses the Department of Geography and the Public Service Institute, including the Center for Urban and Regional Studies and the Center for Human Resources Development.

SERVICE BUILDINGS

The buildings at various locations on campus house specific services and include:

- **Salata Complex**, located on Rayen Avenue and Wood Street, houses University planning and construction, maintenance, administration staff, Grounds Department staff and equipment, Central Receiving, Key Control, Motor Pool, various repair shops, and printing services.

- **Central Utility Plant** is located south of the Watts on the north side of campus. The plant is capable of producing steam and chilled water for University needs and is distributed through a system of underground tunnels and direct-burial utility lines.

SMITH HALL

A medical building, purchased in 1992, at 318 Fifth Avenue currently houses the American Studies program, and Parking, Janitorial Services, and Recycling.

SWEENEY HALL

Sweeney Hall, formerly Dana Hall, a classic one-story building located at the corner of Bryson Street and University Plaza, was constructed in 1908. The building houses the **Sweeney Welcome Center** and the Office of Admissions.

TOD HALL

The University's main administrative offices are in Tod Hall, a former library building built in 1952 and thoroughly renovated in 1978. These offices include those of the President, Provost, Vice President for Administration, Vice President for Student Affairs, Development and Public Relations, Associate Degree and Tech Prep Programs, Institutional Research, Assessment, University Marketing and Communications, the YSU Credit Union, Office of Equal Opportunity and Diversity, and the Board of Trustees' meeting room.

WARD BEECHER HALL

This building houses the Departments of Biology, Chemistry, and Physics and Astronomy. The five-story original unit was constructed in 1958, a major addition was built in 1967, and a small addition comprising chemical storerooms was completed in 1997. It was built with funds contributed by Mahoning Valley Industries and area industrialist Ward Beecher. Presently the building contains thirty-one laboratories, including a planetarium and a greenhouse, nine classrooms, sixty-six academic offices, fifty-three faculty research rooms, and a conference-seminar room.

WILLIAMSON COLLEGE OF BUSINESS ADMINISTRATION

A new 110,000 square foot building opened in summer 2010. Special facilities include a financial services lab, professional sales and business communication lab, team rooms, conference center, student entrepreneurship lab, and student organizations center.

STUDENT SUPPORT SERVICES

ACADEMIC SUPPORT SERVICES

William F. Maag, Jr. Library. The six-story William F. Maag, Jr. Library is an attractive, comfortable, and technologically advanced environment for study and research located at the center of the Youngstown State University campus. Maag Library provides comprehensive information services and access to information in print, analog, micro, and digital formats. A professional staff provides in-depth assistance in a wide variety of disciplines. Maag Library is open for on-site use more than eighty hours per week during the term. Virtual access to library services, to the online catalog, and to direct digital information resources is available via MaagNet, <http://www.maag.ysu.edu/>, providing constant 24-7 access from home or office.

Maag Library is a member of OhioLINK, a statewide library and information network linking the libraries of all of Ohio's public and private colleges and universities. OhioLINK provides straightforward, easy access to a combined collection of over thirty-nine million items. The vast majority of this statewide collection is open to patron-initiated borrowing with rapid delivery to any member site. The network also provides access to over 100 indexing and abstracting databases in many disciplines and direct access to the full text of over 5,700 scholarly journals. OhioLINK is currently working to provide direct Internet access to a variety of audio, visual, and primary-source materials.

Maag Library itself offers instructional and research materials in the form of books, periodicals, microforms, CD/DVD, and sound recordings to a combined catalog of over 1.5 million records. These holdings number close to 100,000 government documents (with access to millions online), 700,000 bound volumes, and 800,000 microforms. Periodicals, microforms, and microreaders are housed on the first floor. A copy management center allows self-service. User service points, such as reference and circulation, as well as most staff offices, are conveniently located on the Library's entrance floor. The book collection is in open stacks, with split-level design between stack and reading areas. Study rooms and carrels are located on five of the floors.

Maag Library is home to over 150 contemporary computer workstations, connected to a high-speed network, located throughout the building. The fourth floor of Maag houses a general-purpose productivity computer lab that is open to faculty and students as many hours as the Library is open. In addition, any YSU faculty, staff, or student with a wireless device is able to connect to the Maag wireless hubs. Moreover, laptop computers with wireless network connections can be checked out for use anywhere in the Library.

Located on the fifth floor of Maag, the Archives and Special Collections unit is not only collecting and preserving documents detailing the history of YSU and its environs but also is developing the capacity to provide searchable Internet access to its entire collection. The Multimedia Center on the third floor of Maag contains over 20,000 phonograph recordings, audio and video tapes, as well as audio and data disks. The collection is strong in recordings of opera, jazz, and the collected works of J. S. Bach. A significant effort is currently underway to digitize most of the collection's analog recordings.

The **Curriculum Resource Center (CRC)** located in the Beeghly College of Education is also a vibrant part of Maag Library, offering curriculum materials and support for students in education.

The lower level of Maag houses classrooms and offices for the Writing Center, the Reading and Study Skills Center, the English Language Institute, and the Center for Communication Excellence.

Computer Center. YSU's centralized computational facility houses the Computer Services and Network Telecommunications and Security departments. The Computer Center, which provides decentralized access to faculty, staff, and students, occupies the fourth floor of Meshel Hall. The Tech Desk, housed on the fourth floor of Maag Library, provides customer support services.

Personal computers are available on campus for instruction and research. Currently, more than sixty labs are available within the fourteen campus buildings and the suburban Metropolitan College site. Networked personal computers allow access to local software, as well as to other facilities on campus, such as Maag Library, and to Internet sites worldwide. The Electronic Campus provides faculty, staff, and students the opportunity to use global and local computer networks and current-generation computer hardware and software via a high-speed network infrastructure.

Supporting both academic and administrative needs is the SunGard Banner ERP software suite. For those students, faculty, and staff needing UNIX shell services, a Sun server running Solaris 2.8 is available on the network. More than 4,000 online devices, including terminals, personal computers, printers, and projection systems are located on campus. A Virtual Private Network (VPN) is provided for remote access off campus.

An Ethernet backbone that runs through campus connects workstations, personal computers, and Maag Library's computer system. All campus buildings are linked to a gigabit Ethernet optical fiber network backbone consisting of fully meshed high-speed core switches; 100Mb Ethernet is available to the desktop using Category 5 copper cabling.

Over 10,000 network locations have been wired with electronics to activate 5,000 concurrent connections. Campus Intranet and Internet access is available at each of these locations, including all residence hall rooms. Selected classrooms are equipped with fiber optic access to facilitate broadcast quality, full-motion video distribution, and distance-learning opportunities. Over 200 locations on campus have wireless network services, including Maag Library, Kilcawley Center, and on-campus housing. Plans to extend wireless access to areas throughout the campus are also underway. The MyYSU portal extends email services to all students, faculty, staff, and University guests.

Center for International Studies and Programs (CISP). The Center for International Studies and Programs (CISP) is an integral part of the Division of Academic Affairs and is responsible for coordinating the international dimensions of the university including international student recruitment, admission, orientation, and immigration services; study abroad programs; obtaining employment authorization for international faculty; and English as a Second Language services through the English Language Institute (ELI).

The CISP works in partnership with the academic colleges and departments in developing international initiatives, represents the academic affairs division on international matters within the university, and represents Youngstown State University on international matters to state and federal agencies as well as to other organizations.

The English Language Institute (ELI). The English Language Institute (ELI) at YSU was established through the Center for International Studies and Programs and the Department of English to provide intensive study of English to speakers of other languages. It offers pre-college, non-credit courses designed to teach English to students who already have some knowledge of English. In addition, the ELI provides an orientation to college life and culture in the U.S. Courses are available both to international students and immigrants. The ELI also offers specially tailored courses to groups by contract. The ELI welcomes all students, as well as professionals, who wish to improve their English language proficiency. Students must be at least seventeen years old or have completed high school. For an application and more information about the ELI, visit the ELI website at www.ysu.edu/EngIns/.

Metro Credit Education Outreach. METROCREDIT provides a gateway to the educational resources of the University for adults and nontraditional students, and works to form partnerships with regional workplaces by creating and delivering programs and services that meet when and where students need them—days, evenings, weekends, on and off campus, in a traditional classroom or out—and by using distance learning technologies to supplement other learning experiences.

METROCREDIT offers credit classes specifically designed and planned to meet the varied needs of adults. The Metro Credit Education Outreach department partners with the academic colleges to deliver YSU programs off-site; for example, Metro Credit supports the needs of elementary and secondary school teachers and administrators by offering M.S. and doctoral degree programs in Education in distant counties and school districts. Any school, district, or educational service center can contact Metro Credit for information about starting a cohort graduate program at their location. For more information, please call (330) 941-2449 or visit www.ysu.edu/metrocredit.

The Office of University Outreach, under the Metropolitan College, develops and administers courses and programs outside of traditional degree programs through Continuing Education, Edutravel, and the Center for Creative Retirement. Through both credit and noncredit course offerings at a variety of convenient times and locations, it makes academic programs, along with administrative and support services, available to nontraditional students and regional workplaces. Through University Outreach, YSU attempts to make the lifelong process of education possible for the adult with family and work obligations.

The Continuing Education noncredit programs offer area residents a wide variety of adult study or lifelong-learning courses and seminars to meet the needs for a changing society, for professional updating and upgrading, for midcareer adjustments, and for lifestyle changes.

The Center for Creative Retirement provides area seniors with several opportunities to pursue their educational objectives. The College for the Over Sixty is a state-mandated program providing for the enrollment of Ohioans 60 years of age or older who have been state residents for the preceding 12 months in undergraduate credit classes on a space-available, noncredit basis. Seniors who meet the income requirements may earn credit toward an undergraduate degree through the College for the Over Sixty. Through the YSU-ILR, an affiliate of the Elderhostel Institute Network, seniors have the opportunity to develop, instruct, and participate in educational programs and social activities designed for this membership-based organization. During the summer, the YSU Elderhostel provides seniors with weeklong residential learning and social experiences through Elderhostel-approved offerings.

Further information may be obtained from the Metropolitan College, Southwoods Commons (Boardman) at (330) 941-2465.

STUDENT SUPPORT SERVICES

Career Services. The Office of Career Services provides comprehensive career planning/exploration and job search services to students and alumni in all areas of career decision making and the professional job search. Students are encouraged to become familiar with Career Services early in their graduate course of study in order to fully utilize and benefit from available services and resources.

Services and resources available to graduate students include individual career and job search consultation; computerized, interactive career planning software for assistance with individual academic/career planning; job postings from hundreds of local, regional, and national employers; a comprehensive career resource information center; employment search skill development programs and workshops offered each semester; an on-campus recruiting program, which annually brings employer organizations to the YSU campus to interview graduating students for employment after graduation; and annual career/job fairs and consortium job fairs. Our staff also assists students in finding employment, either on campus or with local employers, while enrolled in the University. Central to the operation of the Office of Career Services is PenguinLINK, a Web-based software system that makes it possible for currently enrolled students, YSU alumni, and employers to have 24-hour-a-day/seven-day-a-week access to recruiting information and services at Youngstown State University. Through PenguinLINK, students and alumni registered with Career Services can upload their résumés to the database to be included in one or more online résumé books, search job listings, email résumés directly to employers, quickly view the latest announcements from the Office of Career Services, review the recruiting schedule, and sign up for interviews with employers recruiting on campus.

Counseling Services. The Office of Career and Counseling Services provides short-term counseling, consultation, and referral services. In most cases, there is no fee for services. Issues commonly addressed during individual counseling sessions include depression, anxiety, relationship problems, family conflicts, low self-esteem, school and work problems, eating disorders, lack of emotional control, career indecision, loss and grief issues, and coping with illness.

The Office of Career and Counseling Services is located in 1034 Jones Hall. During fall and spring semesters office hours are 8:00 a.m. to 5:00 p.m. on Mondays, Wednesdays, Thursdays, and Fridays. The office is open from 8:00 a.m. to 7:00 p.m. on Tuesdays. During summer months, office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. For more information call (330) 941-3515 or visit <http://www.yсу.edu/career-services/>.

Student Health Clinic. The Student Health Clinic is located on the first floor of Kilcawley House, which is adjacent to Kilcawley Center. The entrance to the Clinic is located off University Plaza.

The Clinic provides health care to all currently enrolled YSU students—both resident and commuter students. Licensed physicians staff the Health Clinic twelve hours per week during the semester. Appointments are required. Students must call (330) 941-3489 to schedule an appointment. During break weeks and summer term, physicians have limited hours; however, registered nurses are available daily, year round.

Health care is available for illness, injury, first aid, and routine health checks. Health screening tests, physical exams for sports and academic programs, gynecological exams, as well as consultations and referrals, are provided. Flu and other immunizations are also given; however, there are charges for these injections. General health care information is also available on the Clinic's website at <http://healthclinic.yсу.edu/>.

Office visits are free. Students do not need to have student health insurance to use the Clinic's services. Blood tests, X-rays, lab tests, etc., ordered by a YSU Health Clinic physician are done off campus at the student's choice of provider and at the student's expense.

Student records are confidential. Information cannot be released to anyone without the written consent of the student. Certain public health diseases, however, must be reported to the Department of Health as required by law.

The Student Health Clinic also provides information and registration forms for Student Health Insurance. Details are available on the clinic's website.

Student Ombudsperson. The student ombudsperson has the official role of ensuring the interests and rights of all students enrolled at Youngstown State University by being an impartial, trustworthy person to oversee conflict-resolving procedures and assure due process for all parties. The ombudsperson works to produce informal resolutions for disputes; advises students of their rights; and identifies and refers students to the correct offices or individuals to address their concerns. Achieving informal resolutions depends substantially on helping disputants to appreciate their true situation and understand the options available to them. The purpose of the office is to protect the rights of the student. The ombudsperson strives to maintain an atmosphere of confidentiality and fairness and to promote an environment conducive to learning and reasoned discourse.

The ombudsperson is Jack Fahey. Any student may make an appointment by calling (330) 941-3532 or by stopping by his office in Student Affairs on the first floor of Tod Hall.

Testing. The Comprehensive Testing Center supervises and administers national admission and certification tests. These include the American College Test, the College Level Examination Program, the Graduate Record Exam (subject only), the Law School Admissions Test, the Millers Analogies Test, and the Praxis Exam.

Veterans. Located in Tod Hall, the Office of Veterans Affairs (OVA) serves as a central location to discuss issues, questions, or concerns current or prospective students may have regarding their enrollment. The OVA also works with the Office of Veterans Affairs Advisory Council, an independent body that guides and supports the university's efforts to serve those with prior or current military service in our nation's armed forces. The Council is a nine-member body with representation from faculty, students, staff, the community and YSU Board of Trustees.

Although primarily set up for undergraduate enrollment, all students and interested parties can contact the Council and the OVA by visiting our web site at www.yсу.edu/veterans and clicking on the Advisory link, emailing us at veterans@ysu.edu, or calling the office at 330-941-2503/2523. Individual person to person meetings are encouraged.

Eligible Veterans and/or Reservists planning to use their Veteran's educational benefits at Youngstown State University should access the Office of Financial Aid and Scholarships website at www.yсу.edu/finaid. The Veteran Benefits link lists the chapters of eligibility, applicable forms and requirements, online VA resources, and YSU contacts for Veterans benefit processing. The Veteran's Benefits page maintains up to date information for Veterans and eligible dependents to use. Additional information may be obtained by visiting the Office of Financial Aid and Scholarships, 203 Meshel Hall or by calling (330) 941-1321.

Bookstore. The YSU Bookstore is located between Kilcawley Center and the Andrews Student Recreation and Wellness Center. The Bookstore is the ONE-SOURCE for ALL your textbook needs and offers you ways to save money. Access your booklist on our website and then compare prices with top online marketplace sellers all with one click. You'll find there's nowhere else to shop, but we dare you to compare! Shop early for the largest selection of used books at huge savings. Sell books back to the YSU Bookstore for cash or rent books from us. Rentals provide immediate savings to students for the upfront cost of textbooks. You will also access the most popular fiction and nonfiction authors. Bargain Book titles are also available at up to 80% off list prices. Selling not only textbooks, the YSU Bookstore offers the discriminating consumer excellent customer service, a wide array of quality merchandise, which consists of apparel with the ever popular penguin mascot, and YSU logos. Rounding out your shopping experience at the Bookstore is a convenience store with your favorite snacks, coffee, and last-minute supplies. Visit us on the web at <http://www.ysubookstore.com> or call (330) 941-3589. Like us on Facebook and connect with the YSU Bookstore.

Housing. YSU owns and operates five housing facilities for students: Kilcawley House, located on University Plaza; Lyden House and Cafaro House on Madison Avenue; and Wick and Weller Houses on Wick Avenue. On-campus options for students range from traditional residence hall facilities to apartment-style housing. In addition to the facilities operated by the University, YSU works closely with three private housing operations that are on campus: the University Courtyard Apartments, the Flats at Wick Apartments, and Buechner Hall.

University Housing facilities are structured environments. Each is a small community, and as such, has procedures and regulations addressing noise, safety, guests, and security. Each facility has state-of-the-art building security systems. University residence halls have full-time professional and part-time student staff that oversee the operation of the halls and assist students with the issues of daily college life.

Kilcawley House was constructed in 1965 and has recently been completely renovated. Public areas, bathrooms, and student rooms are attractive and modern. This traditional, seven-story housing facility can accommodate 224 students. Kilcawley residents live in double occupancy rooms, complete with moveable furniture, wall-to-wall carpeting, individual room-controlled heating and air conditioning units, telephone jacks with unlimited local calling and caller ID, wireless Internet access, and cable TV. Lounges are available on each floor.

A computer lab with Internet access is located in the basement. The basement also contains wireless Internet access, free laundry, a game room equipped with a TV, Ping-Pong and pool tables, kitchenette with vending machines, fitness equipment, and two music practice rooms. Kilcawley House residents have the advantage of being located in the heart of the YSU campus and can use Andrews Recreation and Wellness Center and all of Kilcawley Center's facilities including Home Savings and Loan, YSU Info and PC Lab, and copying service without going outdoors.

Lyden House opened in the fall of 1990. The impressive five-story structure reflects a traditional collegiate Gothic style with clean, contemporary lines. Lyden House, located just north of campus along Madison Avenue, houses 300 students. A typical student room is approximately 12' x 17' and houses two students. In addition to a

bunk/loft bed, which can be stacked or separated, each student has a desk and chair, a dresser, and an armoire wardrobe unit. The furniture is uniquely designed to interchange to suit the individual student's tastes in personal decor.

Rooms also feature individually room-controlled heating and air conditioning units, cable TV, telephone with unlimited local calls and caller ID, wireless Internet access, overhead lighting, and tiled floors. All rooms in Lyden are handicap accessible.

Each wing of this residence hall includes convenient showers and restrooms, quiet study rooms, and comfortable conversation lounges. Students have full access to a kitchenette/vending area, fitness room, a computer lab, and free laundry facilities in the lower level of Lyden. A convenient parking area is adjacent to Lyden House.

Cafaro House, our co-ed residential honors facility, opened in the fall of 1995 and houses 274 students from the University Scholars Program, B.S.M.D. program, and honors program. Cafaro also houses graduate students and international students. The facility has enclosed suites that accommodate four to eighteen residents, and it has individual rooms within each suite area that house two residents. Cafaro also has one traditional wing. Each room has cable TV, Internet access, and telephone jacks with unlimited local calling and caller ID.

In addition to providing a variety of lounge and recreational spaces with wireless Internet access similar to Kilcawley and Lyden, this facility also has academic spaces such as a seminar room, a computer lab with Internet access, and music practice rooms.

Weller House opened in the fall of 1991. It offers apartment-style, on-campus living, and each unit has a full bathroom with a tub and/or shower, a kitchen, wireless Internet access, telephones with unlimited local calling and caller ID, cable TV, an electric range, refrigerator/freezer, and a garbage disposal. Apartments vary in size and are designed to accommodate one to three students.

Weller House is located along Wick Avenue next to the Arms Family Museum of Local History and near the Butler Institute of American Art. Weller House accommodates 24 junior, senior, and graduate tenants. Furnishings provided for each person are similar to those previously listed for Lyden House residents.

Weller also offers students convenient, free laundry facilities and fitness equipment on the lower level.

Wick House is also located along Wick Avenue next to the Arms Family Museum of Local History and near the Butler Institute of American Art. Wick House, constructed in 1906, offers the traditional architecture style of the turn of the century. This four-story former mansion features an impressive, historically preserved staircase. It offers thirty-three upperclass students a wide variety of housing options, ranging from single occupant rooms to rooms accommodating three students. Rooms vary in size and share showers and restroom facilities. Furnishings provided for each person are similar to those previously listed for Lyden House residents.

Wick House residents enjoy an adjacent parking lot, security monitoring, a large first floor lounge, computer lab, cable TV, internet access, telephones with unlimited local calling and called ID, a first floor community kitchen, and free laundry facilities.

Applications for University Housing are available online at <http://housing.yosu.edu>. In order to be accepted for University housing, a student must first be admitted to the University. Space is allocated on a first-come first-served basis. Contact the School of Graduate Studies and Research at (330) 941-3091 to apply to the University.

The **University Courtyard Apartments** opened in the fall of 2003. Independently operated, the University Courtyard Apartments are an ideal option for students wishing to live on campus but not in a University

residence hall. The Apartments are located in the Wick Oval, close to the center of campus and adjacent to the Dana School of Music. There are one, two, or four bedroom apartments available (one student per bedroom). Each apartment comes equipped with ceiling fans; wall-to-wall carpet; appliances, including dishwasher, microwave, and garbage disposal; and mini-blinds. In addition, every apartment comes fully furnished. In the apartment complex, there are planned resident activities; a study center, including a computer lab; and a choice of fitness and recreation opportunities. The rent for the apartment is all-inclusive, which means the residents pay one amount for everything—central heat and air, electricity, water and sewer, local telephone, high-speed Internet access, and basic cable TV. For more information, please call (330) 941-1999 or visit www.universitycourtyard.com.

The **Flats at Wick Apartments** opened in the summer of 2010. Independently owned and operated, the Flats offer another option for students wishing to live close to campus but not in a residence hall. The apartments

are located on the corner of Elm Street and Madison Avenues across from Cafaro House. There are one, two, three, and four bedroom apartments available (one person per bedroom), and each bedroom has its own private bathroom. In addition, each apartment comes equipped with ceiling fans, carpet, appliances including a dishwasher, blinds, and are fully furnished. In the apartment building there is a recreation room, fitness room, and designated study spaces. The rent for the apartment is all-inclusive. For more information, please call (330) 743-5287.

Buechner Hall, a privately owned and operated women's residence hall, is located near the center of campus. Although this facility is not operated by Housing and Residence Life, cooperation and regular communication ensure that the women residents are integrated into campus life.

Buechner Hall, designed and built expressly for women, is operated by the Buechner Foundation, a private, not-for-profit corporation, and is maintained by funds from the original bequest. The Foundation partially underwrites every resident's cost. Located on the YSU campus, Buechner Hall houses seventy-five women in single and double rooms. The air-conditioned rooms are completely furnished, including linens and telephones, and are cleaned weekly by the housekeeping staff. The dining room provides fifteen home-cooked meals a week, and weekend cooking facilities are also available. The building has an elevator and sprinkler system and laundry facilities on each floor. Staff and security guards provide maximum 24-hour security service. A beautiful and immaculately maintained building, Buechner Hall is conducive to a quiet study environment. It is located at 620 Bryson Street, Youngstown, OH 44502. Please call (330) 744-5361 for more information.

Kilcawley Center. Since its opening in April 1974, Kilcawley Center has served as the heart of campus. This not only refers to its central location on campus, but to the many services, conveniences, programs, and amenities it provides to the University community. The Center's casual atmosphere, comfortable lounges, and attractive dining areas focus on making free-time activity an integral part of a YSU education. Through cultural, social, and recreational programming, Kilcawley Center provides for rich and diverse experiences. Visit Kilcawley's web site at www.kc.yzu.edu for details on Kilcawley's services, hours of operation, staff directory, the daily calendar of events, and student job postings.

Kilcawley Center's study lounges are renowned for their comfortable overstuffed chairs and couches that are perfect for studying, relaxing, or napping. The lounges and restaurant dining areas in Kilcawley Center provide high-speed wireless Internet access. The Center offers convenient banking at a Home Savings & Loan branch office and ATM machine, ComDoc copy services, as well as offices for Student Government and student organizations. Kilcawley Center houses sixteen seminar rooms, two computer-training classrooms, and a large multi-purpose room. On a daily basis these rooms host luncheons, workshops, seminars, lectures, organization meetings, and programs.

Graphic Services, located on the lower level of the Center, designs flyers, banners, posters, brochures, and graphics to fit whatever the need may be. Graphic Services is open Monday-Friday and offers a lamination service and a variety of helium balloons to suit any occasion.

On the upper level of Kilcawley is the **YSU Info and PC Lab**, where students can find popular software programs on the PCs and access to the Internet. A small fee is charged for printouts. The YSU Info and PC Lab serves as the information center and lost & found for the University, registers students for campus locker rentals, provides estimates for Kilcawley Resume and Typing Service, and offers for purchase 24-hour campus wireless access (ATT) cards. A fax service is also available and includes international faxing.

Kilcawley Center offers diverse choices in dining. Located on the lower level of Kilcawley are YSU Wendy's, the KC Food Court—which includes Denny's Fresh Express, Jump Asian Express, and Pennyguins—the Candy Counter, Simply to Go, and the HUB, featuring Dunkin' Donuts and SubConnection.

On the upper level of Kilcawley is Pete's Place Restaurant.

The Kilcawley Candy Counter is a popular place for sweet treats and quick snacks, along with U.S. postage stamps and single-dose healthcare items.

Adding **Pete's Points** to your YSU ID card will allow you to debit your purchase at ANY Kilcawley dining location including the Kilcawley Candy Counter and the YSU Bookstore C-store. Pete's Points are also accepted at many nearby locations both on and off campus and are listed at times2dine.yzu.edu. Stop in the Kilcawley Center Staff Office to add Pete's Points to your card. A \$25 minimum deposit is required, payable in cash, credit card, or personal check.

Campus Meal Plans are available for purchase and are offered with a variety of dining options. A meal plan brochure is available at housing.yzu.edu click on Dining Options and Meal Plans or stop in the Kilcawley Center

Staff office for a copy. If you have meal plan questions or wish to purchase a meal plan for the semester, visit the Card Office located in the Kilcawley Center Staff Office or call (330) 941-2513. Cash, credit card, or check is accepted.

Sodexo Dining Services is located on the upper level of Kilcawley Center near the Student Government offices. Sodexo provides a full catering menu for small group functions to large dinner buffets for up to 450 people. For information call (330) 941-3391.

The YSU Bookstore is located on the upper level of Kilcawley Center; along with the convenience store (C-store), and the offices of Student Life, Student Government, Student Diversity Programs, and Student Activities. The Andrews Student Recreation and Wellness Center can also be accessed from the upper level of Kilcawley Center.

Kilcawley Center's lower level west wing, located under the YSU Bookstore, houses the Center for Student Progress. The east wing of Kilcawley Center is Kilcawley House; the Office of Housing and Residence Life and the Student Health Clinic are located on the first floor.

RESEARCH AT YSU

Youngstown State University is committed to fostering high quality, nationally competitive research to promote faculty and student development in support of the teaching mission of the University. As noted in its mission statement, “The School of Graduate Studies and Research supports the continued development of faculty scholarship and serves as the principal point of coordination for both internally- and externally-funded programs at Youngstown State University.” These coordination efforts are directed at obtaining the resources necessary to mount and maintain scholarly and educational programs of excellence and, in some cases, to target specific areas for regional and/or national prominence.

Youngstown State University faculty members are heavily invested in scholarship on an individual basis. Graduate faculty research interests are listed for each degree program in the *Bulletin* and also individual faculty members web pages accessible from departments/websites.

THE CENTER FOR APPLIED HISTORY

Established in 1997, this center’s activities draw upon the expertise of faculty members from the Butler Institute of American Art and several University departments, including History, Geography, Sociology and Anthropology, and Art. The Center for Historic Preservation is committed to making the most of existing resources by celebrating and safeguarding our nation’s historic architecture, industrial and engineering sites, and cultural resources. Students are included in all aspects of the Center’s activities, which include Historic American Building Survey/Historic American Engineering Record documentation, National Register and National Historic Landmark nominations, Historic Resource Surveys and Determination of Eligibility Reports, and transcribing oral history interviews. The Center collaborates with the Mahoning Sanitary District on the Youngstown Water Works, the Institute for History of Technology and Industrial Archeology, The Youngstown Historical Center of Industry and Labor, and the Mahoning Valley Historical Society. The Center has received external funding from The Ohio Historic Preservation Office, Battle of Homestead Foundation, Carnegie Mellon University, and the Ohio Humanities Council.

CENTER FOR URBAN AND REGIONAL STUDIES

This Center is a part of Youngstown State University’s Public Service Institute. It provides research and technical assistance that focuses on challenges to urban and regional development. Seven programmatic areas include reduction in poverty, local government assistance, economic development, urban and environmental planning, urban data (including census) services, and crime reduction.

CENTER FOR HUMAN SERVICES DEVELOPMENT

The Center is a resource for health and human service organizations and community leaders. It works with the community to identify problems and needs, develop solutions, and evaluate activities in the health and human services field.

CENTER OF EXCELLENCE IN APPLIED CHEMICAL BIOLOGY

The Center for Applied Chemical Biology (CACB) at Youngstown State University (YSU) represents a Center of Excellence having highly skilled, research-active faculty and students from a variety of disciplines who are making very significant contributions to the intellectual infrastructure of Northeastern Ohio. The investigatory tools used by these investigators, which largely define the term ‘biotechnology’, not only include the traditional techniques of chemistry (biochemistry, organic chemistry, pharmacology, etc.), but also innovative genomic (gene-related) and proteomic (protein-related) approaches to dissect biological phenomena. The discoveries derived from chemical-biological investigations are applied to develop processes and materials that generate economic, sociological, and public health benefits (e.g., biomaterials, drug discovery, development of biofuels, bioremediation methods, etc.). By driving workforce development and providing broad-based technological expertise in chemical biology, the Center is a potential engine of economic development. The CACB welcomes opportunities for collaborative partnerships that are not just local or within the Cleveland-Pittsburgh TechBelt, but also those that actively engage regional, national, or international biotech ventures.

CENTER OF EXCELLENCE IN INTERNATIONAL BUSINESS

Designated as one of YSU's four Centers of Excellence, the Williamson College of Business Center of Excellence in International Business encompasses global learning experiences for students, research in international business, the study of emerging markets, and training and consulting services for businesses. Components of the Center include the Williamson Center of International Business, the Emerging Market Initiative, and the Ohio Small Business Development Center at YSU.

The Emerging Markets Initiative was awarded the 2007 Governor's Excellence in Exporting Award for increasing awareness of exporting as a vital component of the state's economy. The Emerging Markets Initiative supported international study tours, curriculum development, faculty research projects, several outreach seminars, and the design and delivery of an International Business Scholars Workshop for high school students.

THE RICH CENTER OF EXCELLENCE FOR THE STUDY OF AUTISM

The Rich Center for Autism, established in 1995, is located on the campus as a component of the Beeghly College of Education. Realizing that autism is a major educational challenge for parents and teachers, the founders established The Rich Center's goal: to improve the conditions with which children with autism learn to live. By combining current research about autism with the newest and most innovative theories in education, The Rich Center for Autism offers hope that children affected with autism can reach their full potential. Therefore, the primary emphasis is on teaching and research as well as focusing on the intensive training to children with autism.

The Rich Center for Autism fulfills the mission to prepare educators, medical specialists, other professionals and para-professionals who serve individuals with autism in best practices for teaching and caring for these special people; to increase our knowledge base through the promotion of scholarly research in a living laboratory; to provide public service and advocacy on behalf of those affected by autism. These goals are accomplished through the Academic Program, the Research Program, and the Public Service Program, which includes Professional Development Program, Full School Year Program, Summer Program, and Outreach Consultation Program.

THE CENTER OF EXCELLENCE IN MATERIALS SCIENCE AND ENGINEERING (CEMSE)

The CEMSE at Youngstown State University is devoted to the preparation, advanced characterization, and development of a variety of materials for enhanced educational experiences, advancement of basic research, and practical applications of benefit to society. The CEMSE is distinguished by state-of-the-art materials characterization facilities, dedicated personnel, and a strong commitment to engaging industrial participants in collaborative research and educational initiatives towards the primary goal of fueling economic growth of the greater Youngstown region.

One major funding award in the CEMSE, a Wright Capital Projects grant, in the amount of \$2.1 M through the Third Frontier Program of the Ohio Department of Development was to the Department of Chemistry in collaboration with Fireline TCON, Inc. These funds were used to establish a state-of-the-art electron microscopy facility within the College of STEM to conduct research on advanced composite materials for applications ranging from parts for molten aluminum processing to conformal body armor for U.S. troops. The new facility has greatly expanded YSU's capabilities for materials research by permitting analysis at the nanoscale to atomic levels.

CENTER FOR TRANSPORTATION AND MATERIALS ENGINEERING

The Center for Transportation and Materials Engineering (CTME) at YSU was established in late 2006 as a result of funding received from the United State Department of Transportation (USDOT). The funding was included in the 2005 Federal Transportation Efficiency Act of the 21st Century. That legislation authorized the U.S. DOT to fund 22 Tier II University Transportation Centers [UTCs] throughout the nation. Youngstown State University was one of the four sites selected in Ohio; the other three are Cleveland State University, the University of Akron, and the University of Toledo. The YSU CTME has chosen to respond to the national strategy for surface transportation as delineated in the U.S. DOT Strategic Plan and the U.S. DOT Research, Development, and Technology Plan. Building on YSU's established expertise in the areas of materials research and engineering for infrastructure enables the Center to focus its efforts on applied research and applications through the use of materials engineering and increases and innovations in advanced manufacturing of materials to increase the longevity, mobility, and sustainability of the Nation's Transportation Infrastructure. The YSU CTME is

partnership driven by and includes students, faculty, stakeholders, and transportation and transit agencies and organizations. All of the efforts at the YSU CTME will address the goals of the UTC Program through research, education, and technology transfer activities.

THIRD FRONTIER ADVANCED ENERGY PROGRAM

A second Wright Project involves research collaboration with Catacel. Catacel Corp. has recently developed a compact flexible fuel reformer (FFR) based on an accordion-style corrugated metal foil heat exchanger; the exchanger is a standardized low-cost foil module that can tolerate temperatures up to 900°C. Researchers from YSU will be working with Catacel engineers to improve their understanding of catalyst stability, a key step in the commercialization of the heat exchange platform system for use in fuel processing. Without knowledge of the performance of these catalysts for extended periods of time under real operating conditions, Catacel cannot provide performance guarantees to its customers. Enhancement of existing systems and construction of additional test units will be completed and transferred to YSU through the funding from this project, and these units will be used for extended time testing of selected catalyst systems.

ECONOMIC DEVELOPMENT ACTIVITIES AND APPLIED RESEARCH

A recent initiative within YSU is the provision of a formal system of support within the School of Graduate Studies and Research for economic development by providing access to University research expertise and research facilities to the regional business community. A Business Community Liaison coordinates access to faculty expertise and research facilities by industries in the Valley, and the University has embarked on a new role of community support to help local companies identify resources to expand or redefine their businesses through the activities of the Garden Club Angels of Youngstown, a community based educational initiative, sponsored by YSU through the School of Graduate Studies and Research and the Youngstown Business Incubator (YBI). These activities are also coordinated with the YSU Metropolitan College for workforce development and with other established economic development organizations, such as the YSU Small Business Development Center and the YBI.

As a lead member of the National Additive Manufacturing Innovation institute (NAMII) located at the YBI, Youngstown State University is participating in a national/regional network of industrial companies, government agencies/organizations, and universities and colleges focused on industry/manufacturing support, workforce training, and applications research for additive manufacturing. YSU's main role will be workforce development and applied research as appropriate. The University is also the lead institution and fiscal agent for a recent U.S. Department of Energy Grant establishing the Tech Belt Innovation Center, a business incubator in Warren Ohio, focused on developing clean and advanced energy technologies for commercial application.

THE SCHOOL OF GRADUATE STUDIES AND RESEARCH

MISSION STATEMENT

As a state-assisted metropolitan university, the instructional mission of Youngstown State University is focused on the educational, scholarship, research, and service requirements of residents and students of northeastern Ohio and western Pennsylvania, as well as a broader region, including all of Ohio and its surrounding states. This mission is designed to meet a variety of needs, including those in the industrial, professional, business, educational, social, and cultural areas. In support of this mission, the fundamental responsibility of the School of Graduate Studies and Research is to make quality graduate education available to all qualified persons desiring it. Graduate study at Youngstown State University provides an integrated program of advanced study leading to discipline mastery and an understanding of related subjects. A thorough training in research skills and/or professional applications associated with the base of knowledge for each discipline is implicit in all graduate programs. Because of the very nature of graduate work itself, a more than average investment and initiative in learning, inquiry, research, and scholarship will be required on the part of candidates for an advanced degree. Thus, the School of Graduate Studies and Research seeks to develop and maintain programs of high stature that achieve appropriate professional accreditation and attract quality students to the University.

Graduate programs that yield students who have mastered their discipline require a faculty of teacher-scholars who are active in their respective fields of study, whether they are professionally oriented or involved in more traditional scholarship, research, and creative activities. Individuals who meet these requirements constitute the graduate faculty.

The School of Graduate Studies and Research supports the continued development of faculty scholarship and serves as the principal point of coordination for both internally- and externally-funded programs at Youngstown State University. These coordination efforts are directed at obtaining the resources necessary to mount and maintain scholarly and educational programs of excellence and, in some cases, to target specific areas for regional and/or national prominence.

DEVELOPMENT AND ORGANIZATION

On March 28, 1967, the Trustees of The Youngstown University authorized the president and faculty of the University to begin developing graduate programs at the master's degree level, starting in the fall of 1968. In May 1967, the Faculty Senate of The Youngstown University authorized the development of master's degree programs in various academic departments of the University. At its first meeting on August 15, 1967, the Youngstown State University Board of Trustees established the office of the dean of the Graduate School and the general regulations governing the appointment of a graduate faculty. It also identified and authorized the initial graduate degree programs that were to be offered. These programs gained approval from the Ohio Board of Regents on December 15, 1967. Preliminary accreditation was given by the Higher Learning Commission of the North Central Association of Colleges and Schools in July 1968; continued accreditation was awarded in 1974, 1978, 1988, 1999, and 2008. The School of Graduate Studies and Research is a member of the Council of Graduate Schools in the United States and the Midwestern Association of Graduate Schools.

The School of Graduate Studies and Research is administered by a dean who is also a member of the Graduate Council. The elected members of the Graduate Council consist of one representative from each college's Graduate Studies Committee, one at-large member from Education, one graduate student member, and one program director from each college. Standing committees of the Graduate Council are Curriculum, Policy, Assistantships Allocation, Graduate Student Recruitment and Retention, and Graduate Student Grievance.

GRADUATE STUDENT REPRESENTATION

Within the first month of the fall semester, the Graduate Studies Committee of each college will ensure that a graduate student and an alternate from that college are elected to represent graduate student interests on the College Graduate Studies Committee. The six graduate student representatives to the six College Graduate Studies Committees also constitute the Graduate Dean's Graduate Student Advisory Council (GSAC).

Those eligible to be members of GSAC are full-time graduate students as defined in the graduate catalog, graduate assistants, or part-time students who have completed 12 or more hours of graduate credit, excluding transfer credit, before the fall semester in which the representatives are chosen.

The GSAC will choose from its own membership

- a graduate student member of Graduate Council; and
- a graduate student member to serve on each of the following graduate committees: Policy, Curriculum, and Assistantship Allocation.

The GSAC will recommend to Council three graduate student members of the Grievance Committee, at least one of whom comes from GSAC.

Graduate students serving on graduate committees shall be voting members of the committees on which they serve. Members of GSAC have the right to participate in graduate faculty meetings without voting. Vacancies in GSAC will be filled by Graduate Council. A vacancy will occur automatically if a student representative resigns his or her position or if he or she is not registered for courses carrying graduate credit. The GSAC may request Council to declare a vacancy if the student is delinquent in his or her duties. If there are no available students from a given school, the Council may fill the vacancy with a student from another school.

GRADUATE PROGRAMS

The following graduate degree programs are offered by Youngstown State University:

- Doctor of Education (Educational Leadership)
- Doctor of Philosophy (Materials Science and Engineering)
- Doctor of Physical Therapy
- Master of Arts (American Studies; Art Education; Economics; English; Financial Economics; History)
- Master of Business Administration (Accounting; Executive; General)
- Master of Computing and Information Systems
- Master of Fine Arts (Creative Writing)
- Master of Health and Human Services
- Master of Interdisciplinary Communication
- Master of Music (Jazz Studies; Music Education; Music History and Literature; Music Theory and Composition; Performance)
- Master of Public Health
- Master of Respiratory Care
- Master of Science (Applied Behavior Analysis; Biology; Chemistry; Criminal Justice; Environmental Studies; Mathematics)
- Master of Science in Education (Counseling; Educational Administration; Master Teacher Programs for Elementary, Secondary, and Special Education Teachers; Educational Technology)
- Master of Science in Education-Educational Specialist in School Psychology
- Master of Science in Engineering (Civil/Environmental and Chemical; Electrical and Computer; Industrial and Systems; Mechanical)
- Master of Science in Nursing (Adult-Gerontology Clinical Nurse Specialist; Family Nurse Practitioner; Nurse Anesthetist; Nurse Education; School Nurse)
- Master of Social Work

ADMISSION

Admission to the School of Graduate Studies and Research is granted by the dean of Graduate Studies and Research upon recommendation of the department in which the applicant wishes to do major work. Students in combined baccalaureate/master's programs must follow standard procedures for admission to the School of Graduate Studies and Research. Admission is required before registration in any course for graduate credit (also

see Graduate Courses for Undergraduates). The complete application for admission, including supporting materials, should be received by the Office of Admissions, Sweeney Hall at least four weeks before the beginning of the term in which the applicant plans to register or as required by the specific program.

ADMISSION PROCEDURE

The Application for Graduate Program Admission is available in the Office of Admissions, Sweeney Hall. The form is also available as a PDF file on the School of Graduate Studies and Research website. Online applications are also available. Contact the Office of Admissions or visit http://www.yzu.edu/Grad_School/ for more information about these options.

International students must apply for admission on the Application for Graduate Admission for International Students. It is currently available in hard copy form by contacting the Office of Admissions (330) 941-2000 or enroll@yzu.edu. The forms are also available on the School of Graduate Studies and Research website, <http://www.yzu.edu/GradSchool/>.

Students utilizing the online application are required to pay the admission fee by credit card or electronic check as part of the process. Paper applications are submitted with the application fee to the Office of Student Accounts and University Receivables. Applicants must send one transcript from each college or university attended, except YSU, to the Office of Admissions. Official transcripts must be sent directly from the institution to the Office of Admissions. Personal or unofficial transcripts issued to the student or those delivered or sent by the applicant instead of the institution will not be accepted.

Applications for admission cannot be reviewed until official transcripts of all previous college or university work are received. The applicant must see that the transcripts reach the Office of Admission at the earliest possible date. The applicant should provide all the information requested in the first submission of materials. Omission of information on the application form will necessitate requests for additional information and therefore delay processing of the application. International applicants should also see the International Student Admission section for additional requirements. As soon as possible after receipt of all application materials, the graduate dean will notify the student of the action taken on the application and, if the student is admitted, will provide information on registration procedures.

TEST INFORMATION

In certain master's programs, test results must be submitted as part of the admission procedure. The Graduate Record Examination is available at Sylvan Learning Center locations. The Graduate Management Admission Test is available at Pearson VUE test centers; see www.mba.com/mba for more information. Arrangements for taking the Miller Analogies Test on campus may be made directly with the Testing Office in 109 Meshel Hall, (330) 941-3175. Test scores are valid for five years.

ADMISSION REQUIREMENTS

Minimum requirements for admission to the School of Graduate Studies and Research are the following:

- A bachelor's degree from a college or university certified by a regional accrediting agency (e.g., North Central Association of Colleges and Schools) approved by the U.S. Department of Education
- An unrecalculated cumulative grade point average in undergraduate work of at least 2.7 (on a 4.0 scale). If an undergraduate course has been repeated, all grades received will figure in the calculation of the grade point average
- Satisfactory preparation for the graduate program in which the student wishes to enroll as specified by the department of the major
- A test of written/spoken English, which the University reserves the right to request, of any entering graduate student whose primary language is not English
- Degree-seeking students having an undergraduate GPA below 2.7 must present a satisfactory score on the general test of the Graduate Record Exam, the Miller Analogies Test, or graduate-level subject specific exam as specified by the department of the major

The applicant is reminded to check specific admission requirements of the program in which he or she wishes to enroll to determine if there are any additional requirements.

TYPES OF ADMISSION

Regular. Regular admission will be granted to students who satisfy the admission requirements for the master's program in which they wish to enroll. Other categories are available as noted.

Provisional. Upon recommendation of the program director or chair, and the college dean, and subject to the approval of the dean of Graduate Studies and Research, a student may be accepted with provisional admission if his or her undergraduate record shows slight deficiencies compared to the admission requirements of the program to which the student seeks entrance. Students who are admitted with provisional status because of undergraduate course deficiencies will be required to make up the deficiencies by taking the appropriate undergraduate courses. Students admitted in provisional status may have no more than 9 s.h. of undergraduate course deficiencies. Students who are admitted with provisional status because of low test score(s) or low unrecalculated undergraduate grade point averages will be reviewed by the program director and/or chair when nine semester hours of degree-credit coursework are completed. The program director and/or chair will change the student's status from provisional to regular if the deficiencies have been met and/or the student's record justifies such a change. The advisor will report the change to the dean of Graduate Studies and Research on the Action on Provisional Status form.

Non-degree. Non-degree status provides an opportunity for individuals who hold a baccalaureate or higher degree to enroll in graduate classes for professional or personal development, personal enrichment, or to explore the possibility of entering a graduate degree program without completion of the regular graduate admission process. Departments may require prior approval for non-degree student registration in departmental courses.

Non-degree applicants must meet all requirements for admission to the School of Graduate Studies and Research (minimum unrecalculated GPA of 2.7 at the undergraduate level, baccalaureate degree, and submission of all academic transcripts). Status as a non-degree student is not an admission to a School of Graduate Studies and Research degree or certificate program. Non-degree students not seeking a graduate certificate must complete a non-degree application for graduate studies that indicates their academic area of choice. Non-degree students are required to pay the regular application fee. If non-degree students subsequently decide to seek admission to a graduate program, no further application fees will be assessed, but all required credentials must be submitted.

Non-degree students are ineligible for any financial aid (including assistantships awarded by the School of Graduate Studies and Research). Non-degree students may seek advisement from the chairperson or program director in the academic area in which they have been permitted to take courses.

Students may only complete nine semester hours as non-degree seeking students. A maximum of nine semester hours taken as a non-degree student may be applied toward a degree program if accepted by the department in which the student wishes to earn a degree and if the department's recommendation is approved by the dean of Graduate Studies and Research. This transfer limit may not be appealed. Any additional coursework beyond nine semester hours in non-degree status will not carry credit toward a graduate degree. However, all graduate courses taken as part of a graduate certificate may be counted toward a degree program, if the student is subsequently accepted into the program and the certificate courses are applicable.

Students enrolled in certificate programs may not deviate from the courses required for the certificate. If they do, the additional courses will not carry credit toward a graduate degree. Non-degree students who are enrolled in or who complete certificate programs and subsequently decide to enroll in a graduate degree program must meet all admission criteria for the program in which admission is sought.

NOTE: Students who need to take more than nine semester hours in non-degree status (for licensure, certification, or to earn a graduate certificate, etc.), may reapply to the School of Graduate Studies and Research for up to an additional nine semester hours in non-degree status.

Transient. Transient admission may be granted to a degree-seeking student who attends any accredited graduate school and who submits a Graduate Transient Student form, signed by the dean of the student's home graduate school, showing that he or she is a graduate student in good standing. The form to be used in such cases may be secured from the YSU School of Graduate Studies and Research office. Under some circumstances, transient admission may be renewed for a second semester, but the graduate deans of both universities must approve the renewal. If a transient student later wishes to become a regular graduate student, he or she must be admitted to a degree program by following the usual admission procedures. An admitted transient student must

meet all prerequisite requirements for any course taken at Youngstown State University.

INTERNATIONAL STUDENT ADMISSION

International applicants must complete an application for admission and provide all materials required at least four months prior to the semester they wish to be considered for admission. In addition to the regular admission requirements, the following must also be submitted:

- An original or certified copy of the degree earned and all course and examination records, including grades received, beyond the secondary school level. All original documents must be provided in the official language of the country from which they come. If English is not the official language, English translations must also be provided. If the post-secondary institution maintains all records in English, but English is not the official language of the country, the institution must provide written verification that this is the case on official letterhead. (Note: Documents from the following countries must be mailed directly to the university from the institution via regular postal service: Canada, Ghana, Nigeria, Puerto Rico, and Sierra Leone.)
- A minimum score of 550 on the paper-based, 213 on the computer-based, or 79-80 on the internet-based (iBT) Test of English as a Foreign Language (TOEFL) administered by the Educational Testing Service (ETS) by graduates of foreign universities who are nonnative English speakers. (Scores over two years old by the beginning of the term applicants wish to enter are not acceptable.) The School of Graduate Studies and Research will accept the academic version of the IELTS (International English Language Testing System) as an alternative to the TOEFL exam for international students. (A score of 6.5 on the IELTS test equates to a 550 on the TOEFL.) Proficiency may also be demonstrated by a minimum score of 77 on the Michigan English Language Assessment Battery (MELAB) administered by the English Language Institute, Ann Arbor, Michigan, or a letter of certification from the Youngstown State University English Language Institute stating that the applicant has completed the program of study and is proficient in English at a level appropriate to pursue a graduate degree and present an English language thesis if one is necessary as a degree requirement. Prior to full admission to graduate study, students may be tested and placed in special English classes, if necessary, to ensure an adequate level of English proficiency. (Note: Evidence of proficiency is waived for applicants educated in English-speaking countries as defined in the YSU Undergraduate Bulletin or for applicants holding U.S. Legal Permanent Residence for one year.)
- For F-1 or J-1 Visa certification: evidence of financial support and sponsorship during the period of study at YSU, including documents of verification.

YSU enrolls students in accordance with the policy of the United States Bureau of Citizenship and Immigration Services.

WORKSHOPS

Students who wish to take a workshop for graduate credit but who have not completed the regular School of Graduate Studies and Research admission process will be permitted to register in the School of Graduate Studies and Research as non-degree students. Graduate workshops are graded on an S/U (satisfactory/unsatisfactory) basis.

Certain Youngstown State University workshop courses, upon approval of the graduate advisor, may later be applied to degree work if regular admission to the School of Graduate Studies and Research is obtained and if those courses are part of the degree program. Workshop courses are those specifically designated as such in this catalog or by the Graduate Council.

TRANSFER CREDITS

Transfer hours from an accredited institution will be considered for acceptance at the time of application/acceptance to the School of Graduate Studies and Research. After admission to a program of study, a student who wishes to attend another university to complete coursework toward a YSU graduate degree must complete the Request for Transient Status form available from the Office of Graduate Studies and Research in order to transfer credits to a YSU degree. Every transfer course must either replace a required course of the

program or, if not a direct replacement, integrate satisfactorily into the student's program. While transfer of a course might generate excess hours, such hours may not count toward degree requirements unless they replace a complete course in the program.

An accredited institution is one that is approved or accredited by the appropriate regional accrediting agency (e.g., North Central Association of Colleges and Schools) for graduate-level work.

Credits for courses in which grades of S or CR were received will not be transferred. The number of transfer credits to be accepted in each case will be determined by the graduate dean upon evaluation and recommendation by the department of the student's major. It is the responsibility of the student to initiate a request for the approval of transfer credits. Transfer hours are not included in the calculation of the student's cumulative grade point average.

In general, workshop format courses are not acceptable for transfer. Professional development workshops are not acceptable. However, if the workshop fulfills the following requirements, credit may be considered for transfer to Youngstown State University:

- The workshop must be taught as part of a master's degree curriculum of the university at which the course was taken.
- The workshop should consist of a minimum of 12.5 contact hours per semester hour.
- The workshop must include exposure to the disciplinary research literature appropriate to the course.
- The workshop must include the opportunity for outside work, such as term or research papers or other major assignments appropriate to a graduate course.
- Credits for courses in which grades of S or CR were received will not be transferred.

MASTER'S DEGREE

Up to nine semester hours (12 quarter hours) of graduate work completed at other accredited institutions may be applied toward a master's degree at YSU, provided the student earned a grade of A or B in such courses.

DOCTORAL DEGREE

Up to 18 semester hours (24 quarter hours) of post-master's degree graduate work completed at other accredited institutions may be applied toward a doctoral degree at YSU, provided the student earned a grade of A or B in such courses.

REGISTRATION

ADVISEMENT

Before initial registration, the student would be well advised to consult with the faculty member in charge of the program to which the student has been admitted or with an assigned advisor for advice in developing a program of study that leads to the desired degree. The ultimate responsibility for selection of graduate courses, based upon the requirements of the student's program as set forth in the *Bulletin*, remains with the student. Continued consultation with the advisor is encouraged. Because of the nature of certain programs, an advisor may require consultation before each registration.

REGISTRATION PROCEDURE

All Youngstown State University class registration takes place online through the /MyYSU/Portal (<http://my.yzu.edu>). Registration day and time are determined by the student classification and hours completed. Registration dates and appointment times for current students are available on the /MyYSU/Portal. Registration requires that the student agrees to pay all tuition and fees associated with the registration. Failure to withdraw does not release the student from his or her financial obligation incurred by registration. All significant dates are listed on the Registrar's website and on the MyYSU Portal announcements for each specific semester.

CHANGE OF REGISTRATION

Students may change their registration up to the last day to add a class. All dates are available on the /MyYSU/ Portal.

Withdrawal from a course must be accomplished through the online registration system. Failure to attend class or notification to an instructor is insufficient. A grade of F will be recorded unless a student officially withdraws.

COMPLETE WITHDRAWAL OF REGISTRATION

The student who wishes to withdraw from all classes in a particular semester must also process this through the /MyYSU/portal (<http://my.yzu.edu>). If a student withdraws from all classes during the first two weeks of the semester, the academic record will contain the statement, "Student completely withdrew during the first two weeks of the semester."

CROSS-REGISTRATION OF COURSES AMONG NORTHEAST OHIO PUBLIC UNIVERSITIES

Under specific circumstances, a graduate student may take one or more graduate courses at Cleveland State University, Kent State University, The University of Akron, NEOMED, Ohio University, or Youngstown State University without registering as a transient student at the university delivering instruction. The course should contribute to the student's program of study and be unavailable when needed to complete the student's program at the student's home institution. The student must be in good standing (GPA > 3.0) and be within the time limits for completion of the program. The graduate program unit at the student's home institution will establish a graduate special topics or independent study course identification capable of being tagged by the home university with a title that will correspond to the course title at the host university and with the initials of that university (i.e., CSU, KSU, or UA). Registration for such a course is controlled by the home department and will be permitted only upon receipt of the Approval for Acceptance of Course Work at Northeast Ohio Public Universities form, which is available on the graduate school's website: www.yzu.edu/gradschool. Any department that has no established special topics or independent study course may not participate in this cross-registration program.

TIME LIMIT

Master's Degree. All coursework, including transfer credits, offered in fulfillment of the minimum credit-hour requirement for the degree, all comprehensive exams, and thesis (if required) must have been taken within the six-year period immediately preceding the date on which the last requirement is completed.

Doctoral Degree. All post-master's coursework, including transfer credit, must be taken within an 11-year period.

Matriculation to Doctoral Candidacy. Doctoral students shall be granted a six-year period to successfully complete the general examination and acquire candidacy status.

Doctoral Candidacy to Final Dissertation Copy. Doctoral candidates will have five years from the acquisition of candidacy status to file the final dissertation copy. Failure to meet this time frame will result in cancellation of the candidacy. With the approval of the dissertation advisor and the College Graduate Studies Committee, the student may take a supplemental general examination to reacquire candidacy. If the student passes the supplemental general examination, he or she is readmitted to candidacy and must complete the dissertation within two years. The supplemental general examination may be repeated once.

In special cases, with appropriate justification by the student, the dean of Graduate Studies and Research may grant an extension of the coursework time limit upon the written request of the chair or program director of the department of the master's or doctoral study.

OTHER REGULATIONS

GRADUATE COURSES

Graduate credit may be earned in the following courses:

- 8000-level courses, which are for doctoral students only
- 6900- and 7000-level courses, which are open to graduate students (see Graduate Courses for Undergraduates). At least one-half of the credits applied toward the master's degree must be earned in courses in the 6900- and 7000-series.
- Upper-division undergraduate swing courses (5800-level), in which the student may enroll for graduate credit only

Only certain upper-division undergraduate courses may be taken for graduate credit. Those in this category are listed in the Courses section of this catalog. To earn graduate credit in an upper-division course, the student must be admitted to the School of Graduate Studies and Research before the course is taken. Graduate students in undergraduate courses that offer graduate credit will be required to pursue the subject matter in greater depth than the undergraduate student.

Graduate students may register for 4000-level or lower courses, but these courses do not apply toward the requirements of a graduate degree. Although the grades received and semester hours for such courses appear on the student's record, the hours and quality points are not included in the student's cumulative totals.

SEMINAR

A seminar generally consists of a group of advanced students studying a subject under a professor, each making some pertinent contribution and all exchanging results through informal lectures, reports, and discussions.

RESEARCH USING HUMAN OR ANIMAL SUBJECTS

Research using human or animal subjects requires prior approval by the appropriate committee (YSU Human Subjects Research Committee or YSU Institutional Animal Care and Use Committee). Assistance with the process of obtaining approval may be obtained from the Office of Grants and Sponsored Programs.

THESIS OR DISSERTATION

Certain programs accept or require a thesis or dissertation as partial fulfillment of the requirements for the degree. Students follow the style manual used by the field as determined by the department. The deadline to submit theses is the first day of final examinations of the graduating semester. Additional thesis and dissertation presentation information is available from the School of Graduate Studies and Research and individual departments. Research using human or animal subjects requires prior approval by the appropriate committee (YSU Human Subjects Research Committee or YSU Institutional Animal Care and Use Committee). The approval must be documented in the appendix of the completed thesis or dissertation.

SECOND MASTER'S DEGREE

A student who has a master's degree from YSU and desires a second master's degree must earn a minimum of 12 semester hours of credit in addition to the total that the student had when requirements for the first degree were completed, and he or she must complete the requirements for another graduate program. Students with a master's degree from another university will be limited to a maximum of nine semester hours of transfer credit.

INTERRUPTED ENROLLMENT

Students who interrupt their attendance for six or more semesters (two calendar years) must apply for readmission as former students at least two weeks before late and final registration. Graduate students who fail to take courses or otherwise pursue their graduate education for two years will be readmitted only under regulations at the time of reapplication and after review by the department for approval of the readmission.

FULL-TIME STATUS

Full-time students carry nine or more semester hours for credit. Graduate students who complete less than nine hours per semester may lose eligibility for federal financial aid as a full-time student.

REDUCED LOAD FOR EMPLOYED STUDENTS

The School of Graduate Studies and Research recommends that the employed student carry less than a full academic load as determined in consultation with his or her academic advisor.

GRADUATE COURSES FOR UNDERGRADUATES

The Application by Undergraduate to Enroll in a Graduate Course form is available in the School of Graduate Studies and Research office. Eligible students may choose to take such courses for graduate credit.

ACADEMIC STANDARDS

A cumulative grade point average of at least 3.0 (on a 4.0 scale) is required for graduation. All graduate courses taken at YSU are included in the grade point average calculation (see Grading System for grades less than C). Good academic standing for graduate students is a cumulative grade point average of at least 3.0 (on a 4.0 scale) for all graduate credit courses taken at YSU.

Satisfactory Academic Progress. Satisfactory academic progress at the graduate level is maintained by satisfying the following criteria:

- A degree-seeking graduate student must maintain a minimum grade point average of 3.0 (on a 4.0 scale). Any course grade of D or F must be repeated and passed with a grade of A or B.
- A degree-seeking graduate student must successfully meet the requirements, including the time requirement, of all comprehensive examinations of the degree program.
- A degree-seeking graduate student must complete with a passing grade any thesis requirements (or the equivalent) of the degree program.
- A non-degree graduate student must maintain a minimum grade point average of 3.0 (on a 4.0 scale).

For degree programs requiring up to 39 semester hours for completion, a student may count no more than six semester hours of coursework with a grade of C toward the minimum graduation hour requirements. For students in programs requiring 40 semester hours or more for completion, no more than nine semester hours of coursework with a grade of C may count toward the minimum graduation hour requirement.

Academic Suspension. A graduate student who is not maintaining satisfactory academic progress as determined by the graduate academic program director or department chairperson and graduate dean may be excluded from registration and dropped from the program in which he or she is enrolled. Such action constitutes academic dismissal from the School of Graduate Studies and Research.

Academic suspension for a student with regular admission is automatic if:

- The cumulative grade point average is below the minimum after two semesters during which the student registered “not in good standing”;
- The student fails to pass a comprehensive exam after three tries.

A provisionally admitted graduate student must maintain a minimum grade point average of 3.0 (on a 4.0 scale). A provisional student whose GPA falls below a 3.0 will immediately be dismissed.

Any student in non-degree status whose cumulative grade point average drops below the minimum (3.0) will be prohibited from enrolling in further graduate coursework.

Registration for any session or continuous registration during a full summer counts as one semester for these purposes.

A graduate program may utilize additional academic standards to determine satisfactory academic progress and/or standards for academic suspension; however, such standards must be distributed in writing to all graduate students in the program and must be filed and approved by the dean of Graduate Studies and Research.

Readmission Procedures

- Under exceptional circumstances and with the approval of the Dean of Graduate Studies and Research, a program may readmit a suspended student. In such cases, the normal six-year limitation on coursework shall be applied.
- Graduate students suspended for failing to maintain satisfactory academic progress may appeal their suspensions within one year in writing to the Graduate Council. The decision of the Council is final.
- After a period of one year, a graduate student who has been suspended for academic reasons may reapply to the School of Graduate Studies and Research in order to begin a new degree program or to pursue studies in non-degree status. A readmitted graduate student is not permitted to register for any courses offered by the program from which he or she was academically suspended.

GRADING SYSTEM

The following grading system is used in reporting a final evaluation of the work of graduate students in courses or thesis research: A, B, C, D, and F. The grade point equivalents are 4, 3, 2, 1, and 0, respectively. A graduate student may not elect to take a course under the credit/no credit option.

Grades of D and F carry no graduate credit but will be used to determine the student's grade point average. Failure will normally be indicated by a D; a grade of F indicates that the student has not achieved even a minimum grasp of the essentials of the course. A grade of F can also result from failure to withdraw officially from a course (see Change of Registration and Reduction/Refund of Fee Charges Upon Withdrawal). A student has the privilege of repeating a course once, but the repetition is treated merely as another course, along with the first, in calculating the student's grade point average. Any course grade of D or F must be repeated and passed with a grade of A or B.

On petition by the student and concurrence of the advisor and program director, the dean of Graduate Studies and Research may approve for exclusion from the calculation of the student's grade point average courses that do not apply to the current degree program. In no case may courses be excluded from calculation of the grade point average once a graduate degree has been conferred.

Graduate workshops are graded on an S/U (satisfactory/unsatisfactory) basis.

An incomplete grade of I may be given to a student who has been doing satisfactory work in a course but, for reasons beyond the control of the student and deemed justifiable by the instructor, had not completed all requirements for a course when grades were submitted. A letter grade may not be changed to an I (Incomplete) after the term has ended and grades have been recorded. A written explanation of the reason for the I must be forwarded by the instructor to the Office of Records for inclusion in the student's permanent record, with copies to the student and department chairperson. For fall term courses, the final date to complete an I will be March 1 of the following term; for spring term courses, September 1; for all summer term courses, October 1. With approval by the instructor and the dean of the college where the course is taught, the completion date may be extended. Courses not completed by the appropriate date will be converted to an F.

A grade of W represents a withdrawal properly processed at any time from the end of the full-refund period through the last day to withdraw with a W (as published in the Academic Calendar for each semester). Withdrawal after the designated date (or an improper withdrawal) is recorded as F. Withdrawal thereafter (or improperly done, at any time) is recorded as F. If the grade resulted from circumstances over which the student had no control, the student may petition the dean of the School of Graduate Studies and Research for a late withdrawal. Any grade of F assigned because of absence may be reviewed upon petition to the dean of Graduate Studies and Research. Where withdrawals change the student's status from full-time to part-time, the student immediately forfeits any privileges contingent upon full-time status, and all interested parties will be notified by the appropriate university officials.

In the case of thesis work, independent study, and other courses where research or scholarship is still in progress at the time grades are to be reported, a PR may be reported in place of a conventional grade. The PR grade is intended to indicate that it is the nature of the scholarship rather than the student's ability to complete the work that is preventing the issuance of a conventional grade. A PR grade must be converted to a regular grade prior to graduation. However, a PR grade can remain on the student's permanent record if the course is not needed. A PR grade in and of itself will not prevent a student from graduating.

AU signifies that the student was enrolled in the class as an auditor.

Grade Changes. Applications for grade changes may be secured from the Office of Records, must be completed by the instructor, and must contain the signature of the dean of Graduate Studies and Research unless the change is from incomplete (I) or progress (PR). All grade changes must be submitted to the Office of Records by the dean or instructor; they will not be accepted from the student. In no case may a grade be changed for the purpose of changing the grade point average of the completed degree after a student has received a graduate degree.

Intrauniversity Transfer (Change of Curriculum). A student must request in writing a transfer from one graduate program to another. A transfer is not complete until an advisor in the program to which the student is transferring has been appointed and has accepted the student as an advisee, and when the change has been reported to and approved by the dean of Graduate Studies and Research. In such cases of transfer, courses taken in the original curriculum that also apply toward the degree in the new curriculum will be accepted. The student's academic record and grade point average will reflect all graduate courses taken.

Auditing Courses. A graduate student may register for and attend any course as an auditor. An auditor is not held responsible for the regular classwork, class attendance, and preparation of assignments and receives no credit for the course. The student pays the regular tuition as well as any other applicable fees for the course(s) audited. Assistantships and scholarships do not cover audited courses. Audit courses are carried in a student's load only for fee purposes. A student who has registered for a course for audit may not change that status to credit after the last day to add a class. An AU may be given only to a student who has begun a course as an auditor or who has changed status to that of auditor on or before the last day to add a class.

FOREIGN LANGUAGE PROFICIENCY EXAMINATIONS

The Department of Foreign Languages and Literatures administers proficiency examinations in the following languages: French, German, Italian, Latin, Russian, and Spanish. The graduate student should consult the major department to learn specific degree requirements. A grade of pass or fail on the proficiency examination will be registered with the School of Graduate Studies and Research.

It is the responsibility of neither the University nor the Department of Foreign Languages and Literatures to tutor students or to recommend tutors for these examinations.

COMMENCEMENT

The Intention to Apply for Graduation form, the Application for Graduation form, and the Cap and Gown form must be filed before 5 p.m. on the third Friday of the semester in which the student intends to graduate. Submission of the graduation application is the student's responsibility. Late applications will be accepted through the last day to withdraw from a class with a grade of W in the Office of Student Accounts and University Receivables but will require a late application fee payment. A copy of the Intention to Apply for Graduation form will be sent to the student's major department. There are three graduation ceremonies each year: fall commencement at the end of the first semester in December, spring commencement at the end of the second semester in May, and summer commencement at the end of the summer session in August. Please refer to the "Special Purpose Fees and Service Charges" list as well as the section titled "Other Fees" for information about the graduation fee.

POSTHUMOUS DEGREES

Youngstown State University may award posthumous graduate degrees under certain circumstances. Each case will be considered individually and must be reviewed by the deceased student's thesis or dissertation committee (as appropriate), the student's advisor, and relevant department faculty, and must be approved by the YSU Graduate Council.

VISITING GRADUATE STUDENTS

A visiting graduate student is defined as one who is completing graduate academic work at Youngstown State University for credit at another university. All visiting graduate students shall be required to be granted visiting student status while engaged in academic work at YSU. Applications for visiting student status are available from the School of Graduate Studies and Research. Visiting student status shall provide access to the following campus resources (fees may be required): a YSU identification card; access to campus buildings and laboratories, including computer labs; use of library facilities; and campus parking.

THE CODE OF STUDENT RIGHTS, RESPONSIBILITIES, AND CONDUCT

Youngstown State University is an academic community dedicated to the advancement of learning and development of its students. The University supports the right of all students to be treated with respect and dignity so they can pursue their academic goals in a positive learning community. In support of this goal, the University is committed to a campus environment that values all individuals and groups, and to non-discrimination and equal opportunity for all persons without regard to sex, race, religion, color, age, national origin, sexual orientation, handicap/disability, or identification as a disabled and/or Vietnam era veteran. The University is also committed to the principles of affirmative action and acts in accordance with state and federal laws.

As a member of a higher education community, students have an obligation to conduct themselves in a manner that is compatible with the University's purposes as an institution of higher education. Each student is expected to be fully acquainted with all published policies, procedures, and regulations of the University and is held responsible for compliance with them. Furthermore, all members of the University community are expected to assume responsibility for creating an environment conducive to the educational mission and purpose of the University.

The policies and regulations as outlined in *The Code of Student Rights, Responsibilities, and Conduct* (hereafter referred to as *The Code*) have been established to ensure a positive educational experience for every student. As such, *The Code* serves as an official University document that outlines conditions and regulations considered essential to the effective functioning of the University.

The student conduct process at Youngstown State University adheres to procedural due process and is intended to be part of the educational process at the University. This student conduct process provides a forum for the impartial and expedient resolution of misconduct in the University community and encourages students to live responsibly and be accountable for their actions. The student conduct process is based on the University's commitment to developing integrity, respect, and responsibility among all students. *The Code* is available online at the YSU website or in hard copy from the Office of Student Life.

STUDENT FEES, CHARGES, AND FINES 2012–2013

TUITION

Instructional Fee

Graduate students	
1–11 credits	\$364.82 per credit
12–16 credits	\$4377.84 per semester
Over 16 credits	\$364.82 per credit
Master of Public Health program	\$530.00 per credit
Master of Fine Arts program	\$521.00 per credit

Graduate Workshops Special Rates

In-state participants	\$138.53 per credit
Regional service area participant	\$147.29 per credit
Nonregional service area participant	\$147.29 per credit

General Fee (all students)

1–11 credits	\$53.01 per credit
12–16 credits	\$636.12 per semester
Over 16 credits	\$48.87 per credit

Information Services Fee (all students)

1–11 credits	\$9.54 per credit
12–16 credits	\$114.48 per semester
Over 16 credits	\$9.54 per credit

Nonresident Tuition Surcharge

Regional Service Area	
Graduate students	
1–11 credits	\$8.76 per credit
12–16 credits	\$105.12 per semester
Over 16 credits	\$8.76 per credit
Outside Regional Service Area	
Graduate students	
1–11 credits	\$8.76 per credit
12–16 credits	\$105.12 per semester
Over 16 credits	\$8.76 per credit

HOUSING CHARGES

Room and Board

To be paid as follows:	\$8150.00 per academic year
Fall semester	\$4,075.00
Spring semester	\$4,075.00

Single Room Surcharge

Security Deposit (Paid First Semester)	\$875.00 per semester
	\$200.00

SPECIAL PURPOSE FEES AND SERVICE CHARGES

Application fee, graduate	\$30.00
Background check fee	\$28.00
Bookstore Textbook Rental Fees:	
Late Return Fee	\$35
Replacement Fee – Retail price less rental fee paid	
Check replacement fee	\$25.00
Child preschool laboratory fee	\$150.00 per semester
Credit Card Convenience Fee(student accounts only)	2.75%
Duplicate diploma fee	\$40.00
Graduation Fee	\$65
Fingerprinting fee (web check)	\$37.00
ID replacement fee	\$25.00
Immunization Fees: Call Student Health Services at 330.941.3489	
International graduate student credentials fee	\$45.00
Technology/laboratory materials fee	
Level 1	\$35.00 per course
Level 2	\$50.00 per course
Level 3	\$65.00 per course
Level 7	\$20.00 per course
Level 8	\$85.00 per course
Level 9	\$25.00 per course
Level 10	\$200.00
Level 11	\$350.00
Gross anatomy	\$187.00 per course
Late application for graduation (after third week of the semester)	\$38.50
Late class add fee	\$50.00 per course
Late payment fee	\$30.00
Late registration fee	\$75.00
Parking permit	\$120.00 per semester
Parking permit—summer term only	\$61.00
Parking without permit	\$5.00 per day
Payment Plan Enrollment Fee	\$25/semester
PC Data Recovery Service Fee	\$100
PC Remediation Service Fee	\$75
Peace Officer Training Academy fee	\$300.00 per semester
Performance music (plus tuition)	\$75.00 per credit
Physical Therapy Doctoral Acceptance Deposit	\$500
Proficiency examination	\$45.00 per course
Returned check or credit card charge	\$30.00
Rich Autism Center preschool program	\$125.00 per week
Student health insurance**	
Student locker rental (paid at Kilcawley Center)	\$25.00 per year
Testing fee—MAT	\$75.00
Thesis binding	\$25.00
Transcript Fee	\$6.00
Transcript rush fee (same day, in person, or U.S. mail)	\$12.00
Transcript rush fee (overnight express)	\$35.00

** Current health insurance prices are available at <http://healthclinic.ysu.edu>, or at the Student Health Clinic in Kilcawley House.

FINES

Library and Curriculum Resource Center

Overdue charges and loan periods differ by type of materials:

- Most Library Books, CDs, Videos: No daily fines. At (15) days past due: \$10.00 processing fee plus the item replacement cost.
- OhioLINK Materials: Fine \$0.50 per day to a maximum of \$15.00, plus a \$35.00 processing fee and \$75.00 item replacement cost.
- Reserves, MMC All Other, CRC Non-Print: \$0.55 per hour/day to a maximum of \$11.00, plus a \$10.00 processing fee and the item replacement cost.

More information is available at <http://www.maag.yzu.edu/loanPeriod>

Parking Violations

Class I—Minor Violations

First offense \$25.00

Second offense \$30.00

Third offense \$35.00

Class II—Major Violations \$100.00

Class III—Legal Violations \$150.00

More information is available at <http://www.yzu.edu/parking/violations.shtml>

The University reserves the right to change any fee without notice.

PAYMENT OF TUITION AND FEES

Tuition and fees for the semester are due on or before the date shown on statement of account. Statements are available to be viewed and printed online at MyYSU portal. Students may pay their bills online, in person at the payment windows on the second floor of Meshel Hall, or by mail to the Office of Student Accounts and University Receivables. Students may pay by check (payable to Youngstown State University). A payment plan that allows students to spread payments over a longer period is also available. Payment plan enrollment must be processed online. For additional information on University Billing and Payment policies and procedures, please visit Student Account's website at <https://web.yosu.edu/saur>.

Graduation and transcripts will be held until all University bills are paid. Any balance owed must be sent to Student Accounts and University Receivables no later than the due date on the payment notice to avoid assessment of a late penalty fee.

Enrollment at the University creates an implied contract between the student and YSU. If the student chooses not to attend the University, he or she must officially withdraw from all courses no later than the 14th day of the semester to be eligible for a refund or reduction of charges. Nonattendance of class or notification to the instructor or department does not constitute an official withdrawal.

If the student fails to withdraw by the refund deadline, the student must pay all charges in full. If no effort is made to pay the outstanding bill, collection measures will be implemented.

FEES

TUITION

The sum of the graduate instructional fee, the general fee, and the information services fee constitutes tuition.

GRADUATE INSTRUCTIONAL FEE

This fee is assessed to all students each semester. The rate is per academic semester hour of credit of registration. This fee supplements the state subsidy and is revenue of the University's Educational General Fund.

GENERAL FEE

This fee is also assessed of all students each semester; the rate depends upon the number of credits for which the student is registering. This fee is for non-instructional services, such as Kilcawley Center, intercollegiate athletics, intramural sports, performing artists and lecture programs, Student Government, and Career Services.

AUDITING COURSES

Students may audit courses (i.e., register to take a course without receiving credit). The fees are the same as if the course were taken for credit.

NONRESIDENT TUITION SURCHARGE

As stated, all students pay the instructional fee, the general fee, and the information services fee. Those students who are not legal residents of Ohio also must pay a surcharge.

PERFORMANCE MUSIC FEE

This fee is in addition to the regular instructional fee. It is assessed to students taking music lessons and applied on a per-credit basis.

INFORMATION SERVICES FEE

This fee is charged to all students each term and is applied on a per-credit basis to provide information

technology infrastructure and services across campus, including the new Student Information Systems, wireless connectivity, classroom technology, and a continuous strengthening and securing of the computing and networking environment. It provides support for technology enhancements and initiatives contained within the IT Master Plan, supporting the vision to keep pace with an evolving, interactive, student-centered and collaborative electronic learning environment.

TECHNOLOGY/LABORATORY MATERIALS FEE

This fee is designed to partially offset expenses associated with courses that make use of supplies, equipment, or personnel support beyond that associated with typical lecture courses. Examples include chemical supplies, engineering equipment, computers and software, and laboratory monitors.

OTHER FEES

APPLICATION FEE

A nonrefundable application fee must accompany the initial application for admission to the School of Graduate Studies and Research.

GRADUATION FEE

This nonrefundable fee is assessed when students apply to graduate to cover costs associated with graduation. If a student delays graduation and has paid the fee, the payment remains valid for the two academic terms following the term of application.

LATE APPLICATION FOR GRADUATION FEE

There is a fee charged for late application for graduation to anyone who applies after the third week of the semester.

LATE REGISTRATION FEE

A fee is charged to a currently enrolled student who fails to register for the next term at the assigned time.

PARKING PERMIT FEE

A permit to park in YSU parking facilities will be issued to students and employees of the University upon payment of the fee. The fee is for the academic semester and does not guarantee an available space in any particular lot. Some facilities are restricted (e.g., for students only, for faculty and staff only, or for resident hall residents only). The current *Driving and Parking Regulations* pamphlet and parking lot map should be consulted. A daily fee is charged to anyone without a permit who wishes to park in facilities designated for cash business. Persons other than employees and students who are on campus for a short period of time to conduct business may park in one of the visitors' lots if space is available. The parking permit fee is refundable only if the student returns the permit, access card, and current validation sticker prior to the end of the 100% tuition refund period. If a student completely withdraws, the permit access card and current validation sticker must be returned within five days of either the withdrawal date or the last date of the 100% tuition refund period—whichever is earlier—in order to obtain a refund for this fee.

PC DATA RECOVERY SERVICE FEE

A fee will be assessed to attempt to recover data and/or transfer data that was successfully recovered onto a media device provided by the student, i.e. Flash Drive, Hard Drive, or DVD. No fee will be assessed unless some or all of the data is recovered. Note: If it is necessary to remove the hard drive from the PC in order to recover data, the Tech Desk will NOT be able to perform the service, and no fee will be charged to the student.

PC REMEDIATION SERVICE FEE

A fee will be assessed for removal of all Spyware and Viruses from the PC and for installing the most current updates to applications and the operating system to help reduce the risk of future attacks. The first two PC remediation services are provided free of charge to current YSU students, and the fee only applies to remediations performed beyond the first two free services.

PROFICIENCY EXAMINATION FEE

A fee is charged for an examination provided by an academic department to determine a student's proficiency for some reason other than assignment of academic credit.

SERVICE CHARGES

CHECK REPLACEMENT FEE

A nonrefundable fee is charged for each request to have a student refund check replaced.

HOUSING CHARGE

University housing is available for the academic year and summer terms. The academic year contract includes the Fall and Spring terms. Charges are billed each semester. The housing contract includes room and a flexible meal plan. A security deposit is required. Payment and refunds are as scheduled in the housing contract. Meal tickets are also available for students who are not residents of University-owned housing.

IDENTIFICATION CARD REPLACEMENT CHARGE

A charge is made for replacement of an ID.

RETURNED CHECK, ACH(ELECTRONIC CHECK) OR CREDIT CARD CHARGE

A charge is made to anyone whose check, ACH, or charge card is returned unpaid by the bank. Any late payment fee applicable is also assessed. Failure to pay billing of return check, ACH and/or charge within six days and/or a second check, ACH, or charge return will result in the University's refusal to accept this type of payment at any of its collection points and may subject the student to financial suspension for the term.

STUDENT LOCKER CHARGE

A limited number of lockers are available in various buildings for the convenience of commuting students. Payment and assignments are made at the Kilcawley Information Center.

THESIS BINDING CHARGE

A charge is made for each copy of a thesis or dissertation bound by the Maag Library.

TRANSCRIPT OF CREDITS CHARGE

There is charge for normal transcript processing requests, rush, or overnight requests issued by the Office of Records. Transcripts will not be issued for students or alumni with outstanding debts owed the University. Only a student may order a transcript; however, students are cautioned that most graduate and professional schools as well as many employers accept transcripts only if sent directly by the University.

FINES

LIBRARY FINES

Fines are assessed for failure to return books on time as stipulated or for the unauthorized removal of a reserved book. Willful damage or defacement of library materials or other property is a violation of state law and is punished as such.

PARKING VIOLATION FINE

Parking without a permit, parking in such a manner as to impede regular traffic flow, occupancy of more than one identified space (assuming lines are not obscured), and other offenses as identified in the *Driving and Parking Regulations* pamphlet will result in a citation issued to the student responsible for the vehicle (e.g., student driving parents' car). Payment of a fine removes the citation. Vehicles may be towed in certain cases. See *Driving and Parking Regulations* for detailed information.

REDUCTION/REFUND OF FEE CHARGES UPON WITHDRAWAL

To withdraw from a single course or all courses (complete withdrawal), it is necessary to process a change of registration through BANNER online via the MyYSU Portal—Registration. It is the student's responsibility to confirm that the withdrawal was correctly processed and the course(s) is/are deleted. Nonattendance of class, or notification to the instructor or department, does not constitute official withdrawal.

Effective Summer 2009, if a student is permitted to withdraw from the University or if a student reduces his or her academic load, a refund of the tuition charge, and the nonresident tuition surcharge (if applicable), shall be made in conformity with the following schedule for regularly scheduled courses:

Length of course	100% refund	No reduction of charges
6 weeks or more	thru the 14th day *	15th day and later
Less than 6 weeks	15% of course	more than 15% of course

Note: Because access to change of registration is now available online 24/7, every day of the week is counted (including weekends and holidays) when calculating tuition refunds.

Note: For a complete withdrawal from any term, all applicable fees, fines, and penalties will be deducted from any refunds. If fees were paid by scholarship, loan, or grant-in-aid, the appropriate credit will be issued to the fund from which the initial payment was made. Student accounts paid with financial aid awards may be subject to a financial aid repayment. No refunds will be issued until after the 14th day of the term.

If a withdrawal is after the prescribed time limits (as indicated above), all tuition and other applicable fees and charges are forfeited. All applicable fees, fines, and penalties due must be paid before the refund is paid.

APPLICATION FOR INVOLUNTARY WITHDRAWAL

If a student withdraws for reasons beyond his or her control (e.g., illness, military service, job transfer, or shift change imposed by the employer that creates a direct conflict with the class schedule), the fee charges may be reduced in direct proportion to the number of weeks in attendance. An application for involuntary withdrawal can only be processed for courses in which the student has already received a grade of W (withdrawn). The aforementioned applications will only be considered for semesters falling within the immediately preceding year

* Because access to change of registration is now available online 24/7, every day of the week is counted (including weekends and holidays) when calculating tuition refunds.

(three semesters). Appeals pertaining to semesters beyond this one-year time limit will not be accepted. All applications for involuntary withdrawal must be documented and are processed only by mail on forms provided by the Office of Student Accounts and Accounts Receivable. Address such correspondence to the Fees and Charges Appeals Board, c/o Office of Student Accounts and Accounts Receivable, Youngstown State University, One University Plaza, Youngstown, OH 44555. The decision of the Board is final and not subject to reappeal.

STATE RESIDENCY STATUS

Place of residency for tuition purposes will be determined at the time of admission or readmission by the Office of Graduate Admissions on the basis of the residency rules stated in this section and information supplied on the Application for Admission form.

If the student has any questions about appropriate classification, at the time of application, or any time thereafter, it is the student's responsibility to immediately bring it to the attention of the Office of Graduate Admissions for review, as changes to resident status cannot be made retroactive if supporting documentation is received after the first day of the requested semester. Charges may be made to any student improperly classified as an Ohio resident.

RESIDENT STATUS APPEAL

Appeal for a change in residency classification should be made in writing to the Office of Recruitment and Admissions. The Office may require the student to complete an Application for Nonresident Tuition Surcharge Exemption form. A decision will be sent in writing to the student, who may then appeal the classification in a personal interview.

The student may request the Office of Recruitment and Admissions to arrange an appearance before the Residence Classification Board. Such appearances ordinarily occur within two weeks of the request, if possible. The Residence Classification Board's appellate decision is final.

OHIO STUDENT RESIDENCY FOR STATE SUBSIDY AND TUITION SURCHARGE PURPOSES

A. Intent and authority

1. It is the intent of the chancellor of the Ohio board of regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.
2. This rule is adopted pursuant to Chapter 119 of the Revised Code, and under the authority conferred upon the chancellor of the Ohio board of regents by section 3333.31 of the Revised Code.

B. Definitions

1. "Resident " shall mean any person who maintains a twelve-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state public assistance, and who may be subjected to tax liability under section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.
2. "Financial support" as used in this rule, shall not include grants, scholarships and awards from persons or entities which are not related to the recipient.
3. An "institution of higher education" shall have the same meaning as "state institution of higher education" as that term is defined in section 3345.011 of the Revised Code, and shall also include private medical and dental colleges which receive direct subsidy from the state of Ohio.

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

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

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

7. "Community Service Position" shall mean a position volunteering or working for:

- a. VISTA, Americorps, city year, the peace corps, or any similar program as determined by the chancellor of the Ohio board of regents; or
- b. An elected or appointed public official for a period of time not exceeding twenty-four consecutive months.

C. Residency for subsidy and tuition surcharge purposes

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

1. A student whose spouse, or 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 twelve consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.

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

3. A dependent student of a parent or legal guardian, or the spouse of a person who, as of the first day of a term of enrollment, has accepted full-time, self-sustaining employment and established domicile in the state of Ohio for reasons other than gaining the benefit of favorable tuition rates. Documentation of full-time employment and domicile shall include both of the following documents:

- a. A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that the parent, legal guardian or spouse of the student is employed full-time in Ohio.
- b. A copy of the lease under which the parent, legal guardian or 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 the parent, legal guardian or spouse is the owner and occupant; or if the parent, legal guardian or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that the parent, legal guardian or spouse resides at that residence.

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

1. Criteria evidencing residency:

- a. If a person is subject to tax liability under section 5747.02 of the Revised Code;
- b. If a person qualifies to vote in Ohio;
- c. If a person is eligible to receive Ohio public assistance;
- d. If a person has an Ohio's driver's license and/or motor vehicle registration.

2. Criteria evidencing lack of residency

- a. If a person is a resident of or intends to be a resident of another state or nation for the purpose of tax liability, voting, receipt of public assistance, or student loan benefits (if the student qualified for that loan program by being a resident of that state or nation);
- b. If a person is a resident or intends to be a resident of another state or nation for any purpose other than tax liability, voting, or receipt of public assistance (see paragraph (D)(2)(a) of this rule).

3. For 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.

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

1. A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education shall be considered a resident of Ohio for these purposes.
2. A person who enters and currently remains on 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 employer beyond the territorial limits of the fifty 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.
6. A person who was considered a resident under this rule at the time the person started a community service position as defined under this rule, and his or her spouse and dependents, shall be considered a resident of Ohio while in service and upon completion of service in the community service position.
7. A person who returns to the state of Ohio due to marital hardship, takes or has taken legal steps to end a marriage, and reestablishes financial dependence upon a parent or legal guardian (receives greater than fifty percent of his or her support from the parent or legal guardian), and his or her dependents shall be considered residents of Ohio.
8. A person who is a member of the Ohio National Guard and who is domiciled in Ohio, and his or her spouse and dependents, shall be considered residents of Ohio while the person is in Ohio national guard service.
9. A person who is eligible, or whose benefits have been exhausted or have expired, for benefits under the Post 9/11 Veterans Educational Assistance Act of 2008 or any prior federal act establishing veterans' education benefits, who has been honorably discharged or released from service, who, as of the first day of a term of enrollment, is domiciled in Ohio, and his or her spouse and dependents, shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.

Documentation determined to be acceptable by the institution: (1) DD214 or other military document showing honorable discharge. (2) Documentation of domicile shall include a copy of the lease under which the person or 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 the person or spouse is the owner and occupant; or if the

person 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 the person or spouse resides at that residence.

F. Procedures

1. A dependent person classified as a resident of Ohio for these purposes under the provisions of paragraph (C)(1) of this rule and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the state of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.
2. In considering residency, removal of the student or the student's parents or legal guardian from Ohio shall not, during a period of twelve months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraph (C)(1) or (C)(2) of this rule.
3. For students who qualify for residency status under paragraph (C)(3) of this rule, residency status is lost immediately if the employed person upon whom resident student status was based accepts employment and establishes domicile outside Ohio less than twelve months after accepting employment and establishing domicile in Ohio.
4. Any person once classified as a nonresident must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. It is the student's responsibility to initiate contact. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding twelve consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.
5. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification, effective the following semester.
6. Any institution of higher education charged with reporting student enrollment to the chancellor of the Ohio board of regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of his or her Ohio residency for purposes of this rule. Such an institution may require the submission of affidavits and other documentary evidence which it may deem necessary to a full and complete determination under this rule.

FINANCIAL ASSISTANCE

ASSISTANTSHIPS

Applications for assistantships must be accompanied or preceded by application for admission to the School of Graduate Studies and Research. First-year international graduate students with superior credentials and/or prior academic study in the United States may apply for graduate assistantships.

The assistantship program is predicated on the idea that graduate students, given an opportunity to assist the faculty, provide a service to the institution and also gain valuable experience through this work in association with the faculty. Appointments to assistantships are made by the dean of Graduate Studies and Research only upon recommendation by the student's academic department. In those instances in which the student indicates acceptance of an assistantship award prior to April 15, the student may not accept another appointment without first obtaining formal release for this purpose.

Graduate assistants may be assigned to instructional, research, and/or other academic duties as determined by the department in which the assistant is appointed and as approved by the dean of Graduate Studies and Research. Assistantships require 20 hours per week, including exam week, for duties to be assigned by the department chair. Graduate assistants assigned to classroom or laboratory duties are under the direct supervision of a full-service faculty member who will retain full responsibility for the maintenance of high academic and pedagogical standards. The oral English proficiency of each graduate assistant providing classroom-related services, including laboratory assistants, will be determined by an interview with and certification by the department chair. In the event the department chair cannot certify that the student is proficient in English, the student will be required to satisfactorily complete remedial courses before being assigned instructional duties. International students must also submit a score of the Test of Spoken English (TSE) to the School of Graduate Studies and Research. TSE scores in the range of 45–60 (Foreign Service Institute scale level 2 to 3) are normally considered the minimally accepted standards. In the absence of the TSE, international students may be required to undergo other testing.

Graduate students who are in provisional status because of undergraduate coursework deficiencies cannot be appointed as teaching assistants until the required coursework is completed. Such students can be considered for research appointments. Exceptions to this policy may be considered and must be reviewed and approved by the Dean of the School of Graduate Studies and Research.

Research assignments afford the assistant the opportunity to participate in authorized faculty or University research programs.

Normally, assistantships are awarded for a period of two semesters, beginning with the fall semester. To remain eligible for the assistantship, an appointee must discharge his or her duties satisfactorily and maintain good academic standing. An appointee must maintain enrollment in at least 18 semester hours of degree-credit coursework for the regular academic year and not fewer than nine semester hours of degree-credit coursework for any one semester. (With the advisor's approval, graduate coursework that is not part of the graduate assistant's degree program may be counted toward the 18-semester-hour minimum for the assistantship.) Approval to carry more than 12 semester hours or fewer than nine semester hours in any semester will be granted by the dean of Graduate Studies and Research only upon clear justification from the student's academic program department. (Exception: For a teaching assistant who is the instructor of record and has a teaching load of five semester hours or more, the minimum required enrollment is six semester hours. For a teaching assistant who is the instructor of record and has a teaching load of four semester hours or less, the minimum required enrollment remains at nine semester hours.)

Graduate assistants shall not hold other full-time employment but may accept occasional or temporary employment outside the University during the term of the assistantship, subject to the approval of the department chair or the program director of the department. Other employment on the YSU campus requires the approval of the dean of Graduate Studies and Research.

Each assistantship carries a stipend and remission of instructional fees for up to 12 semester hours per semester, including the nonresident tuition surcharge and music performance fee, if applicable. It does not cover other fees that may be applicable, such as the general fee, technology fee, or charges for parking permits. Assistantships do not cover (1) courses taken on an audit basis, (2) undergraduate courses, or (3) graduate coursework that is not related

to the degree program. The same remission will be applicable for the summer semester up to 12 semester hours for those who have held an assistantship during each of the two preceding semesters. The remission may be used for thesis hours taken in the summer, if the thesis advisor is available for frequent consultation in the summer and arrangements are made with the department for the workload credit given the thesis advisor to be charged against a semester of the regular academic year rather than against summer semester. Financial assistance will be terminated once the student has completed degree requirements.

Graduate assistants who have been admitted with undergraduate course deficiencies will make up course deficiencies by taking the appropriate courses at their own expense. This will be effective with all new graduate assistant appointments beginning Fall 2011.

Further information on assistantship stipends may be obtained from the School of Graduate Studies and Research.

GRADUATE ASSISTANT/INTERN

A special category of graduate assistant, designated as a graduate assistant/intern (GA/I), provides opportunities for University offices or departments, community companies or agencies, or other appropriate external sponsors to involve graduate students as academic assistants/interns in “real life” experiences related to their fields of study. The department/agency of service will provide a stipend to the University, which will be paid to the student through the normal stipend process. Remission of instructional fees will be made in the manner described above under Assistantships. The GA/I will be expected to work in the internship work environment 20 hours per week. Eligibility rules will be the same as for regular graduate assistants, except that the student must be a newly admitted graduate student at YSU. The GA/I will normally be eligible to remain funded for two years in order to complete the program of study.

Further information about graduate assistant/intern appointments may be obtained from the School of Graduate Studies and Research.

CUSHWA/COMMERCIAL SHEARING GRADUATE FELLOWSHIPS

Cushwa/Commercial Shearing Graduate Fellowships are available for selected outstanding graduate students in YSU's master's degree programs in Science, Technology, Engineering, and Mathematics (STEM). Upon successful completion of the program, Cushwa Fellows will be awarded a master's degree in their field of study. The Charles B. Cushwa, Jr./Commercial Shearing Inc. Graduate Student Scholarship/Fellowship Fund was established in 2003 to provide students the opportunity to pursue advanced degrees, get career experience, and offset some of the financial challenges of continuing their education. In addition, the community will benefit from these scholars interacting with local businesses and bringing the resources of the University into the local economy.

Fellows are expected to devote 20 hours per week for 16 weeks per semester (12 weeks in summer) to fellowship duties. They are assigned to a research or other appropriate work experience that is related to the academic program in which they are enrolled. Fellows are normally expected to complete at least one semester as a graduate intern at a company or industry site related to their degree program. Cushwa/Commercial Shearing Fellows must maintain enrollment in at least 18 semester hours of degree-credit coursework for the regular academic year (fall and spring), not fewer than nine semester hours of degree-credit coursework during each fall and spring semester, and not fewer than six semester hours in the summer. To remain eligible, fellows must discharge their duties satisfactorily and maintain good academic standing in their coursework. Appointments are made annually based on satisfactory performance.

The stipend is \$15,000 for the academic year and summer (three semesters). Instructional fees, the nonresident tuition surcharge, and other academic fees will be remitted. Normally, the Cushwa/Commercial Shearing Fellow receives an appointment for two years, including summers. An application for a Cushwa Fellowship should be submitted with the initial application for admission to the School of Graduate Studies and Research or as soon as the student is advised to do so by the graduate faculty advisor. As part of the application process, applicants must submit an official Graduate Record Examination (GRE) score report (regardless of whether or not the GRE is required for the student's graduate program). Contact the School of Graduate Studies and Research for the current year's deadline.

PH.D. IN MATERIALS SCIENCE AND ENGINEERING DOCTORAL FELLOWSHIP

The appointee to the Ph.D. in Materials Science and Engineering Doctoral Fellowship is expected to devote a minimum of twenty hours per week to fellowship duties. Doctoral fellows not only provide a service to the institution but also gain valuable experience through their special association with the faculty. Doctoral fellows are assigned to a research, teaching, or other appropriate work experience that is related to their academic program.

Normally, the doctoral fellow receives an appointment for a period of one calendar year beginning with the fall semester. To remain eligible for a fellowship, fellows must discharge their duties satisfactorily and maintain good academic standing in their coursework. Good academic standing for graduate students is a cumulative grade point average of at least 3.0 in graduate-level courses. Doctoral fellows who must resign from their assistantship will be billed for the pro-rated amount of the fees not paid by the assistantship for that semester.

Doctoral fellows are required to be full-time graduate students as defined in the *Graduate Bulletin*. Prior approval to carry more than twelve credit hours or fewer than nine credit hours in any one semester must be obtained from the department concerned and the dean of the School of Graduate Studies and Research. When determining minimum course hours, degree credit coursework will include whatever courses are stipulated by the Ph.D. program coordinator to fulfill the requirements for the degree program.

Institutionally funded first-year doctoral fellowships carry a stipend of \$23,500 for one calendar year. Continuing Ph.D. students, and those funded from external grants, may be awarded at a higher level, dependent upon the recommendation of the advisor, approval of the STEM dean, and availability of funds. Instructional fees and the non-resident tuition surcharge of eligible courses will be remitted. The award is subject to income tax withholding.

ED.D. FELLOWSHIP

For further information on the Ed.D. Fellowship please contact Dr. Chuck Vergon at 330-941-1574.

FEDERAL FINANCIAL AID

Graduate students enrolled in degree programs at YSU may apply for federal financial aid in the Financial Aid and Scholarships Office, 202 Meshel Hall. (See Full-Time Status as it relates to eligibility for federal financial aid.)

ON-CAMPUS STUDENT EMPLOYMENT

Graduate students enrolled in degree programs are eligible for on-campus student employment. For information on how to apply, contact the Office of Student Life, Kilcawley Center.

SCHOLARSHIPS

Youngstown State University makes funds available to provide scholarships and grants-in-aid to eligible graduate students. An application must be submitted for each semester for which a scholarship or grant-in-aid is sought. Applications for a given semester are accepted during the first through the tenth day of classes (Monday through Friday) of the preceding semester. Decisions will be based on completed YSU graduate hours and YSU graduate GPA. Applications received after the deadline will not be considered. Minimum grade point averages, application deadlines, award levels, and eligibility criteria are subject to change without notice. Detailed information on scholarships and grants-in-aid is available at the School of Graduate Studies and Research.

AWARDS

EARL E. EDGAR MEMORIAL SCHOLARSHIP FUND

The Earl E. Edgar Memorial Scholarship Fund was established in 1980 by friends and family of the late Dr. Earl E. Edgar, vice president for Academic Affairs at YSU. This scholarship provides an annual \$750 award to a graduate student at YSU studying the humanities. Selection of the recipient will be based on financial need and academic excellence. The selection committee comprises the deans of the School of Graduate Studies and Research and the College of Arts and Sciences.

DR. EUGENE D. SCUDDER GRADUATE STUDENT TEACHING AWARD

The Dr. Eugene D. Scudder Graduate Student Teaching Award is a cash award given to a chemistry graduate student for outstanding performance in teaching.

DR. JAMES A. REEDER GRADUATE SCHOLARSHIP AWARD

The Dr. James A. Reeder Graduate Scholarship Award is given to a current chemistry graduate student who will be enrolled at YSU at least part time during the next academic year.

GERTRUDE E. HENDRICKS FAMILY LIFE SCHOLARSHIP

The Gertrude E. Hendricks Family Life Scholarship is available each year to a graduate student whose undergraduate major has afforded preparation for an effective contribution in the family life area.

DR. ROBERT A. DIGIULIO SCHOLARSHIP

The Dr. Robert A. DiGiulio Scholarship, a grant of at least \$500, is awarded each year to a student selected on the basis of the following criteria:

- A graduate student in the counseling program
- An earned grade point average of at least 3.0
- A nontraditional female student (i.e., any female student over the age of 25 years old)
- A promising student with evidence of need

Application forms may be obtained from the Department of Counseling and Special Education. The deadline for submission of applications is February 1.

MARTHA K. SHUSTER MEMORIAL SCHOLARSHIPS

Martha K. Shuster Memorial Scholarships are awarded in recognition of academic achievement in memory of a former YSU employee and Women's Club president. Scholarships are available to one graduate student. Candidates must have completed one third of degree requirements and a minimum 3.5 GPA. Financial need may be considered and a short essay is required. More information can be found at the following website: www.ysu.edu/womensclub.

ROTC

The United States Army provides two year graduate scholarships to qualified students who agree to contract with the ROTC program under the two-year "accelerated" commissioning program. The ROTC Scholarship pays 100% tuition and fees, and provides \$600 per semester for books. In addition, Scholarship Cadets also receive a monthly stipend while attending classes currently worth \$450.00 per month for the first year of ROTC and \$500 per month for the second year of the program.

To qualify for a two year graduate scholarship through ROTC, interested students must contact the ROTC office during the senior year of their undergraduate degree, attend a 28 day "Leader's Training Course" at Fort Knox, Kentucky the summer preceding their graduate work, maintain a 3.0 GPA or higher, pass a Army Physical Fitness Test, pass a Department of Defense Medical Evaluation Review Board (DODMERB), and have no law violations. Applicants must also be a US citizen.

After completing their graduate degree and finishing the two-year “accelerated” ROTC program, Cadets are commissioned as Second Lieutenants in the US Army, Army Reserve or National Guard. For more information about ROTC Graduate Scholarships and the Leader’s Training Course, contact the ROTC Office in Room III2, Stambaugh Stadium, (330) 941-3205.

COURSE NUMBERING SYSTEM, ABBREVIATIONS, AND REFERENCE MARKS

Courses listed in this bulletin are of two types.

- Courses in the 5800 series are upper-division undergraduate courses in which the graduate student may enroll for graduate credit with the approval of the advisor.
- Courses in the 6900- and above series are graduate-level courses normally open only to graduate students but which undergraduates may elect under conditions outlined in Graduate Courses for Undergraduates. Courses in the 8100 series are doctoral-level courses.
- The abbreviation *s.h.* at the end of a course description stands for “semester hours of credit.” Thus, credit for a three-hour, two-semester course is indicated by the notation 3+3 s.h., meaning three semester hours of credit each semester.
- *Prereq.* stands for “prerequisite.”
- *Comma.* Ordinarily, a comma between numbers (e.g., 6907, 6908) indicates that the course extends throughout the year, but that credit toward graduation is given for each course individually.
- *En dash.* An en dash between numbers (e.g., 6907–6908) indicates that credit is not given toward graduation for the work of the first semester until the work of the second semester is completed, except when special permission is granted by the chair of the department in which the course is given. The first semester of such a course is prerequisite to the second.

GRADUATE PROGRAMS

DOCTOR OF EDUCATION IN EDUCATIONAL LEADERSHIP

DEPARTMENT CHAIR

Richard McEwing, Chair
4103 Beeghly College of Education
(330) 941-1437
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PROGRAM COORDINATOR

Charles Vergon
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PROGRAM DESCRIPTION

The Doctor of Education program in educational leadership provides terminal professional preparation for administrators in public and nonpublic schools and health and human service organizations, especially, but not exclusively, those working in the northeastern Ohio and western Pennsylvania areas served by the University. The program is designed to build the capacity of individuals to provide effective educational leadership in such organizational settings, with particular attention to enhancing efficiency, equity, and excellence.

The program focuses on the preparation of professionally committed practitioners who reflect the current state of knowledge and best practice in educational leadership. Central to the preparation of such professionals are the refinement and transmission of competencies in the areas of scholarship, instruction, leadership, management, external relations, and personal development. The program is also open to health professionals for whom no terminal degree is presently available in their field but who desire a rigorous program of research and leadership studies. The program is cohort-based and delivered in mixed-mode format with monthly campus meetings and other instruction accomplished through web-based modules.

The doctor of education program is administered by the Department of Educational Foundations, Research, Technology, and Leadership in the Beeghly College of Education.

FACULTY RESEARCH INTERESTS

Robert J. Beebe, Ed.D., Professor
Administrative theory; human resources administration; leadership development

Jane A. Beese, Ed.D., Assistant Professor
Organizational leadership; economics of education; and program evaluation

Karen H. Larwin, Ph.D., Assistant Professor
Assessment; research design and methodology; statistics

Charles Vergon, J.D., Professor
Education law; policy development; educational change

ACCREDITATION

The Ed.D. program in educational leadership is nationally recognized by the Educational Leadership Constituent Council. Education programs at Youngstown State University are accredited by the National Council for the Accreditation of Teacher Education.

APPLICATION PROCEDURE

Program information may be obtained from the Department of Educational Foundations, Research, Technology, and Leadership. Application and financial aid information may be obtained from The Office of Admissions. All application materials must be sent to The Office of Admissions. Please confirm all deadlines with The Office of Admissions. Because application deadlines and the professional mix in cohorts may vary from year to year, those interested in the program are encouraged to contact the department in advance of initiating the application process.

ADMISSION REQUIREMENTS

Acceptance into the Ed.D. program reflects superior qualifications. Admission is by cohort, based upon a competitive evaluation of applications by the doctoral program faculty of the Department of Educational Foundations, Research, Technology, and Leadership. Diversity among students in terms of race, gender, disability, geography, and professional discipline is desirable. In addition to the admission requirements of the School of Graduate Studies and Research, applicants will be evaluated holistically for their likely success in the program based on the following weighted criteria:

Professional Qualifications and Experience

- Possession or qualification for licensure, if it exists for their profession, in the state in which they wish to practice
- Completion of three or more years of professional experience in their field
- Completion of two or more years of administrative experience or demonstration of exceptional leadership skills
- Submission of a detailed resume

High Academic Achievement

- Completion of an accredited master's degree program in educational administration or in health and human services with a minimum grade point average in graduate study of 3.5 or master's degree in another field with extensive experience in a senior leadership capacity in such an organization.
- Combined score of 900 or more (or 290 or more on revised scale) on the general tests of the Graduate Record Examination. This test must have been completed within the past five years. Applicants must plan to register for this examination in advance. Provisional admission may be granted to otherwise outstanding applicants who fail to achieve the cutoff score.

Professional References

Presentation of three letters of reference attesting to the applicant's good moral character, leadership and management potential, professional plans, success in teaching, professional commitment, interpersonal skills, and special professional capabilities.

Personal Goals and Leadership Vision

- Submission of a statement of interest
- Submission of two 500- to 750-word essays: one personal essay and one essay on their leadership vision

Faculty Interview

- At the request of the doctoral faculty, a personal interview for applicants when the initial screening based upon the standards previously listed warrants further assessment of the applicant's likely success in the program.
- Approval of the applicant by the doctoral faculty

DEGREE REQUIREMENTS

Admission to the doctoral program is made on a cohort basis. Students are expected to enroll for two doctoral core courses per term for Fall, Spring, and Summer terms. Students who fail to progress with their cohorts will have to await the normal core course rotation to enroll in missed courses. Students who are inactive for more than three terms will have to be readmitted to the program upon the Doctoral Admission Committee's recommendation.

Residency

Concentrated effort, continuing peer and faculty interaction, and scholarly reflection relatively free from distraction are needed if the student is to develop a considered and mature vision of the profession. Each student is required to meet a minimum residency requirement of enrollment for 18 semester hours during the period of three consecutive semesters, including summer session(s). No Ed.D. student may enroll for more than six semester hours unless his or her advisor approves such enrollment. Dissertation credits may not be used to satisfy the residency requirement.

Coursework

The credit hours required for the Ed.D. in educational leadership consists of a minimum of 69 semester hours beyond the master's degree. These include 30 semester hours of doctoral core courses, 21 hours of electives, a 3-hour professional skills seminar, a 3-hour leadership internship or clinical practice, and 12 hours of dissertation studies. A minimum of 39 semester hours of graduate credit beyond the master's degree, exclusive of dissertation credits, must be earned at YSU. Students can transfer up to 18 semester hours of post-master's work that satisfy program elective requirements into the doctoral program from other institutions. Transfer credits may be accepted upon recommendation of the Ed.D. program and approval of the Graduate School within the policies of the School of Graduate Studies and Research.

See the Courses section of this catalog for required prerequisite study for each course. Certain courses reflect the particular vision of the YSU program and are to be completed at YSU. This information is noted in parentheses.

Educational Leadership Core	15 s.h.
EDAD 8122 Leadership in Education	3 s.h.
EDAD 8125 Educational Politics and Policymaking in the United States	3 s.h.
EDAD 8140 Seminar in Administrative Theory	3 s.h.
EDAD 8155 Seminar in Current [Educational] Issues	3 s.h.
FOUN 8102 Perspectives on Leadership Among Diverse Populations	3 s.h.

Educational Research Core	15 s.h.
EDAD 8185 Seminar in Educational Research/Dissertation Proposal	3 s.h.
FOUN 8104 Research Strategies in Educational Administration	3 s.h.
FOUN 8110 Theories of Inquiry	3 s.h.
FOUN 8112 Qualitative Research [for Educators]	3 s.h.
FOUN 8114 Advanced Research Design and Statistics	3 s.h.

Concentration Courses	21 s.h. minimum from a concentration area as set out on curriculum sheets and approved by advisor from candidate's primary professional discipline
	<ul style="list-style-type: none"> • Educational Leadership Public and Non-Public Schools • Educational Leadership in Health Care Settings

Professional Skill Development	3 s.h.
EDAD 8100 Professional Skill Development Seminar	3 s.h.

Clinical Practice in Educational Leadership (choose one)	3 s.h.
EDAD 7022E Clinical Experience: Elementary Principalship	3 s.h.
EDAD 7022M Clinical Experience: Middle School Principalship	3 s.h.
EDAD 7022S Clinical Experience: Secondary Principalship	3 s.h.
EDAD 7040 Clinical Experience: Administrative Specialist	3 s.h.
EDAD 7050 Clinical Experience: Superintendency/CEO	3 s.h.

Dissertation Study		12 s.h. minimum
EDAD 8190	Dissertation Study	12 s.h.

Comprehensive Examinations

Comprehensive examinations consist of a written examination covering six competencies and an oral examination assessing the overall suitability of the individual as a leader in schools or school systems. Satisfactory completion of these examinations qualifies the student as a candidate for the Ed.D. degree and signifies readiness to begin the dissertation study.

SPECIAL NOTES

Departmental policies and procedures governing the operation of the Ed.D. program are set out in the program *Administrative Handbook* and *Student Handbook*.

Graduate Studies policies concerning transfer credits, time limits, and other academic matters must be followed. See the General Information of the *Graduate Bulletin*, the *Graduate Studies and Research Academic Policy Book* (www.yosu.edu/gradschool), and graduate faculty minutes for current information.

With appropriate selection of concentration courses, this program may provide licensure in either principalship or superintendency or both in Ohio and/or Pennsylvania for educators that satisfy other requirements established by the university and the respective state departments of education.

DOCTOR OF PHILOSOPHY IN MATERIALS SCIENCE AND ENGINEERING

PROGRAM COORDINATOR

Timothy Wagner
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PROGRAM DESCRIPTION

The Doctor of Philosophy (Ph.D.) in Materials Science and Engineering is a cutting-edge program, employing state-of-the-art analytical materials instrumentation not found anywhere else in the area between Cleveland and Pittsburgh. Incorporating the research activities from the YSU Center of Excellence in Materials Science and Engineering (CEMSE) and the Ohio Hub for Innovation and Opportunity in Advanced Materials Commercialization, this program promotes the synergistic interaction of industrially focused research efforts of faculty, students, and commercial research partners leading to economic development of the region. The Ph.D. is specifically targeted at producing graduates who can find employment as industrial research scientists or engineers.

FACULTY RESEARCH INTERESTS

Martin Abraham, Ph.D., Professor, Dean, College of Science, Technology, Engineering and Mathematics
Conversion of petrochemical and bio-based fuels into hydrogen; heterogeneous catalysis and reaction engineering; steam reforming catalysis for fuel cell applications

James Andrews, Ph.D., Professor
Optical materials, particularly polymeric and organic materials. Nonlinear and applied optics, multilayer optics, laser source development, magneto-optics, and optical metrology.

Pedro Cortes, Ph.D., Assistant Professor
Structure-property relationships of polymers, composites and hybrid materials. Smart Materials and Structures. Development of chem-bio sensing platforms based on carbon nanotubes.

Michael Crescimanno, Ph. D., Associate Professor
Noise spectroscopy in multiphoton quantum optics. Optical materials.

Allen D. Hunter, Ph.D., Professor
Scientific instrumentation, Cyber-Physical systems, and systems integration; synthesis and characterization of nanoscale molecular materials; Technology transfer/research with industry.

Anwarul Islam, Ph.D., Associate Professor
Impact of blast on highway bridges, use of CFRP in enhancing structural strength of concrete members, and structural health monitoring of bridges using wireless sensor network.

Frank X. Li, Ph.D., Associate Professor
Electron spin resonance imaging, EMC, RF and software engineering, networks, and applied magnetic fields.

Clovis Linkous, Ph.D., Associate Professor
Ceramic electrolytes, polymer membrane electrolytes, solid state hydrogen storage, photovoltaic materials, photocatalytic decomposition of hydrogen sulfide; algae inhibition.

Sherri Lovelace-Cameron, Ph.D., Associate Professor
Synthesis and electrochemistry of novel organometallic polymers, synthesis of metal organic frameworks.

Hazel Marie, Ph.D., Associate Professor
FEA/CFD modeling applied to solid-fluid interaction of thin film lubrication sealing; mechanical material modeling of soft biological tissue.

Peter Norris, Ph.D., Professor

Synthesis of novel monomers, oligomers, and polymers derived from carbohydrates; Environmentally friendly methods to organic synthesis; Catalytic decomposition of natural azide nad diazo.

Tom N. Oder, Ph.D., Associate Professor

Micro/Nano fabrication and characterization of electronic and opto-electronic devices of wide band gap semiconductors: SiC, group III-nitrides, ZnO.

Douglas Price, Ph.D., Associate Professor

Corrosion measurement and corrosion inhibition. Preparation of non-uniformly distributed catalysts. Carbon dioxide capture by sorbents and algal solutions.

Josef B. Simeonsson, Ph.D., Associate Professor

Analytical atomic and molecular spectroscopy, Trace and ultratrace analysis, Laser induced fluorescence spectroscopy, Laser ionization spectroscopy, Raman spectroscopy, Environmental analysis.

Virgil C. Solomon, Ph.D., Assistant Professor

Synthesis of shape memory alloys, ceramic-metal composites and nanostructures and their characterization using metallography, thermal analysis and analytical scanning and transmission electron microscopy techniques.

Timothy R. Wagner, Ph.D., Professor

Synthesis and characterization (X-Ray, SEM, TEM) of mixed anion inorganic materials; synthesis of ceramic oxides as precursors for preparation of novel ceramic-metallic composites.

Darrell Wallace, Ph.D., Associate Professor

Studies of heat transfer, wear, and energy efficiency characteristics and their relationship to manufacturing and materials processing.

APPLICATION PROCEDURE

Program information may be obtained from the College of Science, Technology, Engineering and Mathematics and from the Ph.D. Program webpage <http://www.yсу.edu/stem/phd/index.php>. Application information may be obtained from The Office of Admissions (<http://web.yсу.edu/gradschool>) and from Ph.D. Program admission webpage (<http://www.yсу.edu/stem/phd/admissions.php>). All application materials must be sent to The Office of Admissions.

APPLICATION REQUIREMENTS

Students with a B.S. or M.S. in materials science, materials engineering, or related fields (including chemistry, physics, or mechanical, chemical, electrical or civil engineering) can be admitted through the School of Graduate Studies and Research on a competitive basis up to the capacity of the program.

Requirements for admission to the Ph.D. program include the following:

- B.S. or M.S. degree in materials science, materials engineering, or related fields (including chemistry, physics, or mechanical, chemical, electrical or civil engineering);
- Un-recalculated cumulative undergraduate grade-point average of at least 3.0 on a 4.0 scale, or an un-recalculated graduate GPA of 3.3/4.0;
- GRE scores are required. Scores in the following ranges generally reviewed favorably: Verbal = 500-800, Quantitative = 650-800, and Analytical Writing = 4.0-6.0;
- Completed application (see Ph.D. Program webpage: <http://www.yсу.edu/stem/phd/index.php>).

All applications will be reviewed by an admissions committee consisting of the program director and a group of program faculty of sufficient breadth to interpret the credentials of all members of the applicant pool. ***The selection/admission process is competitive; meeting eligibility criteria does not assure admission into the program.*** Applications received as complete by February 1st will have full consideration for fall admissions and graduate assistant opportunities.

DEGREE REQUIREMENTS

- 90 Semester Hours of Graduate Study
 - 16 Hours of Core Coursework
 - 12 Hours of Focused Electives, minimum
 - 6 Hours of Internship, maximum
 - 3 Hours of Seminar, maximum
 - Research, 30 Hours maximum
 - Dissertation
- Qualifying exam, based on the topics presented in the core curriculum, following the first year of study.
- Recommended internship program, usually through full-time paid employment at a partner company.
- Written research proposal, describing the work to be completed for the dissertation. The proposal will be presented orally and defended in front of the dissertation committee.
- Oral presentation of research accomplishments, approximately mid-way through the dissertation research at Seminar.
- Dissertation defended orally to the dissertation committee, which will also approve the final written document. Completion of the dissertation is the culminating experience of the Ph.D. program.

Coursework:

Materials Science and Engineering Course Core	16 s.h.
MATL 7010 Analytical Methods for Materials Science I	2 s.h.
MATL 7020 Analytical Methods for Materials Science II	2 s.h.
MATL 8010 Structure of Materials	3 s.h.
MATL 8020 Mechanical Properties of Materials	3 s.h.
MATL 8030 Thermodynamics and Phase Behavior	3 s.h.
MATL 8040 Kinetics, Diffusion and Rate Processes	3 s.h.
Materials Science and Engineering Research Core	74 s.h.
MATL 6982 Graduate Research	21 s.h.
MATL 6990 Seminar in Materials Science and Engineering	3 s.h.
MATL 8050 Materials Internship	32 s.h.
MATL 8060 Dissertation	6 s.h.
Electives	12 s.h.

SPECIAL NOTES

School of Graduate Studies and Research policies concerning transfer credits, time limits, and other academic matters must be followed.

DOCTOR OF PHYSICAL THERAPY

DEPARTMENT CHAIR

Nancy Landgraff
B086 Cushwa Hall
(330) 941-2703
nlandgraff@ysu.edu

PROGRAM DESCRIPTION

The Doctor of Physical Therapy program is a professional program for the preparation of physical therapists. The program is an entry-level, postbaccalaureate program consistent with the accreditation requirements of the Commission on Accreditation in Physical Therapy Education (CAPTE). Admitted on a competitive basis, students enter the three-year program of professional coursework and clinical education affiliations.

FACULTY RESEARCH INTERESTS

Weiqing Ge, Ph.D., DPT, Associate Professor
Spinal characteristics; muscle stiffness; responses of paraspinal muscle spindles to forces in animal models

Suzanne M. Giuffre, Ed.D., P.T., Associate Professor
Clinical education; pediatric neurology; autism

Nancy C. Landgraff, Ph.D. P.T., Professor and Chair
Functional deficits in carotid artery disease; stroke outcomes; rehabilitations interventions in acute stroke

Kenneth E. Learman, Ph.D., P.T., O.C.S., C.O.M.T., F.A.A.O.M.P.T., Associate Professor
Physical therapy interventions for the spine

Cathy Bieber Parrott, M.S., P.T., Assistant Professor
Orthopedic related disability measurement; program assessment.

Jane Louise Wetzell, Ph.D., P.T., Associate Professor
Interventions for persons with cardiopulmonary dysfunction

ADMISSION REQUIREMENTS

Admission to the Physical Therapy program is competitive. The admission deadline will be posted on the Department of Physical Therapy website.

In addition to the overall GPA (3.0 minimum), priority will be given to applicants with a 3.0 or higher in the following prerequisite courses (with a C- or better in each): anatomy, biology, chemistry, physics, physiology, and psychology. In addition, applicants must have completed or be scheduled to complete an undergraduate degree no later than the start of the professional program and meet minimum School of Graduate Studies and Research requirements. A satisfactory score on the Graduate Record Examination (general test) is also required, along with 40 hours of observation with a Physical Therapist in two settings.

In certain circumstances, Youngstown State University students may be provisionally accepted into the D.P.T. program as undergraduates during the summer semester of their senior year. They are not, however, admitted as graduate students until their application for graduate program admission has been accepted and approved and they are admitted to the School of Graduate Studies and Research. Under no circumstances will this admission take place prior to their receipt of the bachelor's degree.

DEGREE REQUIREMENTS

There are four areas of program requirements that must be satisfactorily completed to be granted the D.P.T. degree: professional coursework, professional conduct, clinical affiliations, and critical inquiry project. Students

not making satisfactory progress may be required to repeat that year of the program or be dismissed based on established standards.

There are three levels of coursework in the D.P.T. program.

Level I: Foundation Courses (waiveable) 12 s.h.

BIOL5868	Gross Anatomy I and lab	4 s.h.
BIOL5869	Gross Anatomy II and lab	4 s.h.
PHYT 5800	Pathology	4 s.h.

Level II: Core Courses 94 s.h.

PHYT 8901	Clinical Decision Making I	6 s.h.
PHYT 8902	Functional Anatomy	3 s.h.
PHYT 8903	Language, Culture, and Health	2 s.h.
PHYT 8904	Clinical Education I	4 s.h.
PHYT 8905	Clinical Decision Making II	6 s.h.
PHYT 8906	Critical Inquiry I	1 s.h.
PHYT 8907	Special Topics: Pediatrics	3 s.h.
PHYT 8908	Legal and Ethical Issues in Physical Therapy	2 s.h.
PHYT 8909	Clinical Decision Making III	6 s.h.
PHYT 8910	Critical Inquiry II	2 s.h.
PHYT 8911	Special Topics: Geriatrics	2 s.h.
PHYT 8913	Management and Leadership in Physical Therapy	2 s.h.
PHYT 8914	Clinical Education II	4 s.h.
PHYT 8915	Clinical Decision Making IV	6 s.h.
PHYT 8916	Critical Inquiry III	2 s.h.
PHYT 8918	Professional Issues	2 s.h.
PHYT 8919	Clinical Education III	4 s.h.
PHYT 8920	Clinical Education IV	12 s.h.
PHYT 8923	Community Applications	3 s.h.
PHYT 8924	Histology	1 s.h.
PHYT 8925	Applied Neuroscience for Physical Therapists	4 s.h.
PHYT 8926	Imaging and Lifespan Pathology for Physical Therapy	2 s.h.
PHYT 8927	Critical Inquiry I: Planning	2 s.h.
PHYT 8928	Healthcare Delivery	1 s.h.
PHYT 8929	Critical Decision Making III: Advanced Cases	3 s.h.
PHYT 8930	Clinical Decision Making IV: Advanced Cases	2 s.h.
PHYT 8931	Physical Therapy Specialty Applications	4 s.h.
PHYT 8932	Pharmacology for Physical Therapy	1 s.h.
PHYT 8933	Clinical Foundation Skills I	3 s.h.
PHYT 8934	Clinical Foundation Skills II	2 s.h.

Level III: Electives 1-12 s.h.

Students are not required to take electives to be granted the D.P.T. degree.

PHYT 8921	Independent Study	1-6 s.h.
PHYT 8922	Research	1-6 s.h.
PHYT 8938	Special Topics in Physical Therapy	1-5 s.h.

Total Hours Required for Degree 94-106 s.h.

MASTER OF ARTS IN AMERICAN STUDIES

PROGRAM DIRECTOR

Stephanie Tingley
245 DeBartolo Hall
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satingley@ysu.edu

PROGRAM DESCRIPTION

The Master of Arts in American studies program is designed to provide students with training in the content, theory, and methods for studying the history and culture of the United States and is designed to provide both training and experience in developing and implementing public humanities and educational programs. Special emphasis is placed on the application of the humanities in community, museum, and school settings. The program offers a core of courses in American studies, art and literature, history, working-class studies, and public practice, along with opportunities to work in local museums, schools, community projects, and other public humanities programs. Courses for the program have been drawn from five different colleges, providing students the chance to gain a truly broad and diverse education while deepening their knowledge of American culture. The M.A. in American studies also offers a teaching track designed for secondary school teachers.

FACULTY RESEARCH INTERESTS

L. Diane Barnes, Ph.D., Professor of History
Nineteenth-century American history; historical editing

Steven R. Brown, Ph.D., Professor of English
Linguistics; TESOL; American studies

Donna M. DeBlasio, Ph.D., Professor of History
Historic preservation; oral history

G. Mehara Gerardo, Ph.D., Associate Professor of History
Latin America; history of American women; gender studies

John M. Hazy, Ph.D., Associate Professor of Criminal Justice
Community health; life course issues; teaching effectiveness

Thomas E. Leary, Ph.D., Assistant Professor of History
Historic preservation; labor and industrial history

Gail Y. Okawa, Ph.D., Professor of English
Multicultural literacy; cultural rhetorics; sociolinguistics; teaching force issues

Martha Pallante, Ph.D., Professor and Chair of History
Early American studies; material culture; pedagogy

John Russo, Ed.D., Professor of Management
Labor relations; industry studies; working-class studies

Stephanie Tingley, Ph.D., Professor of English
American literature; film studies; pedagogy

ADMISSION REQUIREMENTS

Students must have an unrecalculated grade point average in undergraduate study of 3.0 (on a 4.0 scale). The bachelor's degree may be in any field, but students should have taken at least 12 hours of upper-division coursework in some combination of the arts, humanities, and/or social sciences.

DEGREE REQUIREMENTS

Students must complete 36 semester hours of coursework at the graduate level.

Required Core Courses 6 s.h.

AMER 6900	Approaches to American Studies	3 s.h.
AMER 6990 *	Independent Project in American Studies	3 s.h.

Practice Area 6 s.h.

Teaching Track

Select two of the following courses:

AMER 6970	Teaching Working-Class Studies	3 s.h.
AMER 6975	Interdisciplinary Teaching	3 s.h.
ENGL6906	Teaching of Literature	3 s.h.
ENGL6907	Teaching of Writing	3 s.h.
ENGL6974	English Education Workshop	3 s.h.
ENGL6976	Studies in English Education	3 s.h.
HIST 6950	Studies in the Teaching of History	3 s.h.
SED 6936	Fundamentals of Curriculum Development	3 s.h.

or

Public Practice Track

AMER 6930	Humanities in the Community	3 s.h.
AMER 6980	Public Humanities Internship	3 s.h.

Focus Area 12 s.h.

Students must select at least four courses (12 semester hours) from one of the following areas:

Cultural Studies

ANTH 6910	Special Anthropological Problems	3 s.h.
ART 5881	Twentieth-Century Art to 1960	3 s.h.
ART 5882	Twentieth-Century Art from 1960	3 s.h.
ENGL6915	Early American Studies	3 s.h.
ENGL6917	Nineteenth-Century American Studies	3 s.h.
ENGL6922	Twentieth-Century American Studies	3 s.h.
ENGL6923	Working-Class Literature	3 s.h.
ENGL6963	Perspectives in Multicultural Studies	3 s.h.
ENGL6965	Studies in Film	3 s.h.
FNLG6900	Seminar	3 s.h.
HIST 5806	American Architectural History I	3 s.h.
HIST 5607	American Architectural History II	3 s.h.
HIST 6940	Oral History	3 s.h.
SOC6900	Special Sociological Problems	3 s.h.

American History

FOUN 6905	Emotional Challenges in Historical Perspective	3 s.h.
HIST 6902	American Historiography	3 s.h.
HIST 6910	Readings in American History	3 s.h.
HIST 6912	Research Seminar in American Colonial History	3 s.h.
HIST 6913	Research Seminar in 19th-Century America	3 s.h.

* The required course, AMER 6990 Independent Project in American Studies, requires each student to complete an independent project, such as a major research project, the design and promotion of a special exhibit at a museum, the development of an education program at a local library, or the completion of a planning project in cooperation with a local community development agency. Students will work closely with a committee of YSU faculty and community specialists to design and implement their individual projects.

HIST 6914	Research Seminar in 20th-Century America	3 s.h.
HIST 6941	American Material Culture	3 s.h.
Working-Class Studies		
AMER 5850	Class and Culture	3 s.h.
AMER 6910	Introduction to Working-Class Studies	3 s.h.
AMER 6970	Teaching Working-Class Studies	3 s.h.
ENGL6923	Working-Class Literature	3 s.h.
HIST 6939	Labor History	3 s.h.
HIST 6945	Interpretation and Preservation of the Industrial Built Environment	3 s.h.
MGMT 5845	Work in America	3 s.h.
Public History		
CJUS 6960	Program Planning and Evaluation	3 s.h.
EDAD 6933	Educational Policy, Politics, and Change	3 s.h.
ENGL6944	Document Design and Production	3 s.h.
ENGL6953	Publications Issues and Management	3 s.h.
ENGL6992	Professional Communication	3 s.h.
HIST 5810	Conservation of the Historic Built Environment	3 s.h.
HIST 6942	Introduction to Applied History	3 s.h.
HIST 6943	Practicum in Applied History	3 s.h.
HIST/ENGL6946	Historical Editing	3 s.h.
HIST 6955	Museum Curation and Interpretation I	3 s.h.
HIST 6956	Museum Curation and Interpretation II	3 s.h.
HIST 6957	Special Topics in Applied History	3 s.h.

Distribution Requirement 12 s.h.

Students must select four additional courses with at least one from each of the other focus areas above.

MASTER OF ARTS IN ART EDUCATION

Program Director

Samuel Adu-Poku
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sadupoku@ysu.edu

Program Description

The Master of Arts in Art Education program is designed to give art educators an opportunity to further develop artistic, pedagogical, scholarly, research, and leadership capabilities through in-depth study in studio, art history and art education theory. The M.A. in Art Education can be applied towards doctoral study, National Board Certification, Ohio Senior Educator or Lead Educator Licensure, and professional licensure in other states. Special emphasis is placed on the extension of specialized studio experiences in a variety of areas, including painting, printmaking, sculpture, ceramics, graphic design, and photography. Coursework combines studio practice and art history with art education theory, research, and classroom pedagogy to strengthen the capacities of teachers to create dynamic K-12 visual art programs. This integrated approach to the exploration of studio, arts-based educational research, technological, historical, socio-cultural, and contemporary issues in art and art education leads students to a fuller understanding of the challenges and opportunities of contemporary art education.

Accreditation

The Master of Arts in Art Education is accredited by the National Association of Schools of Art and Design (NASAD)

Faculty Research Interests

Samuel Adu-Poku, Ph.D., Associate Professor
Art education; curriculum development; multicultural education; teacher education

Dragana Crnjak, M.F.A., Assistant Professor
Painting; narrative work; drawing

Joy Christiansen Erb, Associate Professor
Photography; traditional and digital photographic media; installation

Joseph D'Uva, M.F.A., Assistant Professor
Printmaking; art materials, processes, and facilities research

David Gill, Ed.D., Assistant Professor
Postmodern curriculum and visual culture; digital technologies for art education

Greg Moring, M.F.A., Professor
Sculpture; design

Michelle Nelson, M.F.A., Associate Professor
Typography; web design; font creation; type animation; visual theory

Stephanie Smith, Ph.D., Professor
Art of the Roman Empire; art of the medieval period, Roman glass

Stephen Chalmers, Associate Professor
Photography; traditional and digital photographic media

Admission Requirements

In addition to the admission requirements of the School of Graduate Studies and Research, applicants must meet the following requirements:

- an undergraduate degree in art education and teacher certificate or professional teaching license;
- an unrecalculated cumulative undergraduate grade point average of 3.00 on a 4.00 scale;
- a minimum of two years of teaching experience preferred;
- three original letters of recommendation;
- 10-12 color images of personal artwork (digital copy);
- a statement of purpose of approximately 250 words indicating intent and proposed area of specialization within art studio and capstone project (studio project track or graduate thesis track);
- a personal interview with the Program Director and the Graduate Program Committee in the Department of Art may be required.

In some cases, remedial coursework in undergraduate studio art may be required by the Graduate Program Committee in the Department of Art before regular admission is granted. To obtain regular admission, the candidate must make up deficiencies by taking the appropriate undergraduate studio courses without graduate credit.

Degree Requirements

Students must complete a minimum of 36 semester hours of graduate coursework consisting of a graduate studio core, an art education core, a graduate research course, an art history elective, and a capstone project in the form of either a written thesis or a graduate studio art exhibition. Research projects are supervised by art education and studio art faculty and should be oriented toward the scholarly integration of theory and practice. As a culminating experience, students must complete either an exhibition combined with a professional talk and an artist's statement, or an oral examination based on a written thesis.

Graduate Studio Core

18-23 s.h.

The Graduate Studio Core consists of 18-23 semester hours (18 s.h. of studio credits plus 5 s.h. of capstone studio project) in two-dimensional and/or three-dimensional studies: drawing, painting, printmaking, photography, digital imaging, ceramics or sculpture. A minimum of 18 semester hours is required with at least 9 hours in a single graduate studio area of concentration. An additional 9 hours will be electives to be chosen from other graduate studio areas to provide breadth, as well as 5 semester hours of advanced capstone studio project for those interested in presenting a professional art exhibition as an exit requirement rather than the graduate research thesis option. Studio courses must be selected from more than one area of concentration. Studio courses may be taken in increments of 1-3 s.h. variable credits with faculty approval.

List of Art Studio Courses (Courses may be repeated)

ART 6910/6911/6912: Studio Problems in Sculpture	3 s.h. (each course)
ART 6930/6931/6932: Studio Problems in Ceramics	3 s.h. (each course)
ART 6940/6941/6942: Studio Problems in Printmaking	3 s.h. (each course)
ART 6950/6951/6952: Studio Problems in Painting	3 s.h. (each course)
ART 5871/5872/5873: Topics in Advanced Photography	3 s.h. (each course)
ART 5861/5862/5863: Studio Problems in Digital Imaging	3 s.h. (each course)
ART 6924 Graduate Studio Project & Exhibition	5 s.h.

Graduate Art Education and Art History Core

15-20 s.h.

The Graduate Art Education core consists of 15-20 semester hours (including the 3-5 variable credits in written thesis research). A minimum of 15 hours is required in art education theory, including 3 s.h. of an educational research course and 3 s.h. of an art history elective. In addition, those electing the thesis research option will complete 3-5 s.h. variable credits in field research and a written thesis based on individual need and research focus.

List of Art Education and Art History Courses

ART 6920	Historical and Philosophical Foundations in Art Education	3 s.h.
ART 6921	Current Issues, Perspectives, and Curriculum Practices in Art Education	3 s.h.
ART 6922	Graduate Seminar in Art Education	3 s.h.

FOUN 6904	Introduction to Educational Research	3 s.h.
ART 6923	Graduate Art Education Thesis	3-5 s.h.
Art History Elective (choose one)		
ART 5840	Topics in Ancient Art	3 s.h.
ART 5881	Twentieth-Century Art to 1960	3 s.h.
ART 5882	Twentieth-Century Art from 1960	3 s.h.
ART 6960	Special Topics in Art History	3 s.h.

Total Hours Required for Degree 36-38 s.h.

Application Deadline

Deadline for applying: February 15 for summer admission; May 15 for fall admission; and October 15 for spring admission.

Graduate Assistantships

Two Graduate Assistantships in Art Education are available through the Graduate School. This will be awarded each year to full-time graduate students on competitive basis. Application for graduate assistantship award may be completed with the initial application process.

MASTER OF ARTS IN ECONOMICS

PROGRAM DIRECTOR

Ebenge Usip
307 DeBartolo Hall
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eeusip@ysu.edu

PROGRAM DESCRIPTION

The Master of Arts in economics program is designed to provide students with a background in applied economics which would lead to professional employment in business, government, or education. Special emphasis is placed on the use of data analysis to investigate public policy issues and business decisions. Supplemented by upper-level courses in mathematics, the program can also help prepare students for doctoral study in economics or related fields. Through choosing the thesis option, a well-prepared student may complete the master's degree in a single academic year by taking 12 semester hours in both the fall and the spring semesters and completing the thesis during the summer.

FACULTY RESEARCH INTERESTS

Ou Hu, Ph.D., Associate Professor
Financial markets; international finance; asset pricing

Tomi Ovaska, Ph.D., Associate Professor
Economics of happiness; distribution modes of foreign aid; economic development in transition economies

Joseph Palardy, Ph.D., Associate Professor
Macroeconomics; time series econometrics

Tod Porter, Ph.D., Professor and Chair
Labor markets; school finance; computer-aided instruction

Teresa Riley, Ph.D., Professor
Labor economics; health care financing; economics education

Albert (A.J.) Sumell, Ph.D., Associate Professor
Urban, housing, and environmental economics

Yogesh Uppal, Ph.D., Associate Professor
Applied microeconomics; applied econometrics; public economics

Ebenge Usip, Ph.D., Professor
Econometrics; time series analysis and forecasting; mathematical economics

Yaqin Wang, Ph.D., Associate Professor
Futures markets; behavioral finance

ADMISSION REQUIREMENTS

In addition to the School of Graduate Studies and Research admission requirements, applicants must have completed at least one course in each of the following areas: principles of microeconomics, principles of macroeconomics, statistics, and calculus. Students who do not meet the requirements may be admitted on a provisional basis.

NONTHESIS OPTION

Students must complete 30 semester hours of graduate credit with a grade point average of 3.0 or higher for the M.A. in economics. The requirements for the degree include the following core courses plus three electives that account for a total of nine semester hours.

The core courses in the program include the following:

ECON 6904	Quantitative Methods	3 s.h.
ECON 6912	Microeconomic Theory	3 s.h.
ECON 6922	Macroeconomic Theory	3 s.h.
ECON 6939	The Economics of Financial Markets and Institutions	3 s.h.
ECON 6945	Public Finance	3 s.h.
ECON 6976	Econometrics	3 s.h.
ECON 6998	Research Seminar	3 s.h.

The paper produced in the research seminar will be reviewed by a committee of three graduate faculty from the Department. Electives are 6900-level graduate courses in the Department that are included in the M.A. program. One elective may be either a 5800-level economics swing course or a graduate-level course taught outside the Department that has been approved by the graduate coordinator.

THESIS OPTION

A thesis may be substituted for the research seminar and a three-semester-hour elective. The thesis, which will be a maximum of six semester hours of credit, must be submitted according to the general requirements of the School of Graduate Studies and Research. The student will defend the thesis in an oral examination before a committee of three or more faculty members of the department. Students wishing to write a thesis must submit a thesis proposal and the names of three faculty members who are willing to serve on a thesis committee to the graduate coordinator prior to registering for thesis credit hours.

MASTER OF ARTS IN ENGLISH

PROGRAM DIRECTOR

Steven Brown
242 DeBartolo Hall
(330) 941-1654
srbrown02@ysu.edu

PROGRAM DESCRIPTION

The Master of Arts program in English offers courses in literature research, history, and theory; genre and figure studies; creative and professional writing; linguistics and composition theory; film; and the teaching of writing and literature. Faculty members strive to offer students an understanding of the traditions of literary study and familiarity with the latest multicultural and interdisciplinary approaches. The M.A. in English prepares graduates to pursue opportunities in teaching, professional writing, and further graduate study.

Working closely with their advisors, students design individual programs to meet their interests and goals. Students are encouraged to explore a variety of approaches to the study of literature, language, and writing and to develop their abilities as readers, critics, writers, and teachers. The program requires 30 semester hours of coursework in English, during which students complete and present a thesis or portfolio of their representative work to a faculty review committee.

FACULTY RESEARCH INTERESTS

Corey Andrews, Ph.D., Associate Professor
Eighteenth-century literature, Scottish Studies, Robert Burns, poetry, bibliography, working-class studies.

Kevin Ball, Ph.D., Professor, Associate Provost for Academic Programs and Planning
Composition and rhetoric; literacy studies; community literary practices

Christopher Barzak, M.F.A., Assistant Professor
Fiction writing; fiction; contemporary British and American literature

Philip Brady, Ph.D., Professor
Modern Irish literature; creative writing; modern world literature

Steven Brown, Ph.D., Professor
Applied linguistics; English as a second language

Jeffrey M. Buchanan, Ph.D., Associate Professor
Rhetoric and composition; English education

Suzanne Diamond, Ph.D., Professor
Theory and politics of written expression/confession; heredity narratives; college composition instruction development

Timothy Francisco, Ph.D., Associate Professor
Shakespeare; Jacobean drama; journalism

Shearle Furnish, Ph.D., Professor, Dean of the College of Liberal Arts and Social Sciences
Medieval literature; codicology; bibliography; methods of literary research

Julia M. Gergits, Ph.D., Professor and Chair
Victorian literature; women's studies; technical writing; literature and the other arts

Jay Gordon, Ph.D., Associate Professor
Rhetoric; professional and technical writing

William Greenway, Ph.D., Professor
Poetry writing; poetry; modern British and American literature

Patricia M. Hauschildt, Ph.D., Associate Professor
Culturally relevant pedagogical practices; narrative and identity methodologies; young adult literature

Karen Kaiser Lee, Ph.D., Assistant Professor
Professional writing and editing; multimedia composition; the relationship between research and writing

Scott A. Leonard, Ph.D., Professor
Nineteenth-century British literature; critical theory; composition/rhetoric

Steven Reese, Ph.D., Professor
Twentieth-century British literature; creative writing

Dolores Sisco, Ph.D., Assistant Professor
African diaspora studies; postcolonial studies; popular culture

Stephanie A. Tingley, Ph.D., Professor
American literature; film studies; pedagogy

ADMISSION REQUIREMENTS

Students must have an undergraduate English major or other preparation judged satisfactory by the department and an unrecalculated grade point average in undergraduate study of at least 3.0 (on a 4.0 scale). Applicants for the M.A. are required to submit a brief (750-1000 words) statement of purpose outlining their reasons for wishing to obtain the M.A. in English and how that degree fits into their professional goals.

DEGREE REQUIREMENTS

All master's degree students must complete 30 semester hours in English courses at the graduate level; exceptions must have prior approval of the English Department chair and the Director of Graduate Studies. All M.A. students must take at least one course in each of two areas: one theory or methods course (graduate assistants must take ENGL 6907; ENGL 6989 may not fulfill this requirement); one language, discourse, or writing course. Students may select the literature-based M.A. or the M.A. track in Professional Writing and Editing to complete their degree.

M.A. in English

To complete this option, students must complete 30 semester hours in English courses at the graduate level; exceptions must have prior approval of the Department Chair and the Director of Graduate Studies. In addition to theory, language, discourse, or writing courses required above, students selecting this option must take at least two literature courses from a list of approved courses. To complete their degree requirements, students in this option may either submit a thesis or a graduate portfolio.

Students in this option are encouraged, but not required, to create a focus area with their remaining courses. Possible focus areas include literature, linguistics, professional writing and editing, composition and rhetoric, teaching English to speakers of other languages (TESOL), and literature for children and young adults. Students who plan on pursuing a Ph.D. in literary studies are strongly encouraged to complete a broad selection of courses in British and American literature.

M.A. in English, Professional Writing and Editing Track

To complete this option, students must complete 30 semester hours of credit in the following courses. Two of these courses must also satisfy the theory, language, discourse, or writing courses required above.

Required Core Courses:

- | | |
|------|--|
| 6943 | Professional and Technical Communication |
| 6944 | Document Design and Production |

- 6945 Theory of Professional and Technical Communication
- 6992 Professional Communication (special topics)
- 6953 Publication Issues and Management
- 6949 Professional and Technical Editing

Choose Three Courses from the Following:

- 6901 Methods of Composition Research
- 6907 Teaching of Writing
- 6950 Sociolinguistics
- 6955 Advanced Linguistics
- 6958 English Grammar
- 6993 Discourse Theory

Choose Either:

- 6998 Professional Writing Internship and Professional Portfolio
- 6999 Thesis

Thesis and Portfolio Options

All M.A. students must submit a thesis or portfolio. Handouts on thesis and portfolio guidelines and examples of past theses and portfolios are available from the departmental Director of Graduate Studies.

The thesis option is designed especially for, but is not limited to, students planning to pursue a doctorate. Students choosing this option must select a committee consisting of a thesis director and two additional graduate faculty members. This committee must approve a thesis proposal before the student can register for thesis credit. Students must demonstrate through the thesis a familiarity with appropriate sources and an ability to interpret the material and properly document their research. Students selecting the thesis option may count up to three semester hours of thesis credit (ENGL 6999) toward their total of 30 semester hours of coursework.

The portfolio consists of selected work written during graduate coursework or as part of a professional internship. The student will present the portfolio to a faculty review committee no later than the eighth week of the semester in which s/he plans to graduate. Students in the Professional Writing and Editing track may count up to three semester hours of credit earned in their professional internship toward the 30 semester hour requirement.

GRADUATE CERTIFICATES

Graduate certificates in professional writing and editing, teaching of writing, literature for children and young adults, and teaching English to speakers of other languages (TESOL) are available through the English Department. Please see the appropriate information in the Graduate Certificates section of this catalog.

ADVISING

All students should have their schedules approved by a graduate faculty advisor every semester. After initial enrollment in the program, the student and his or her advisor will establish a coursework plan including alternate course selections.

Students who anticipate graduate study beyond the M.A. are strongly advised to acquire basic reading competence in at least one foreign language.

MASTER OF ARTS IN FINANCIAL ECONOMICS

PROGRAM DIRECTOR

Ebenge Usip
307 DeBartolo Hall
(330) 941-1682
eeusip@ysu.edu

PROGRAM DESCRIPTION

The Master of Arts in financial economics program is designed to provide students with a background in economic theory and to teach students how to analyze financial markets. This program is intended to lead to professional employment in the financial services industry, including banking, insurance, and financial advising. Coursework in the program includes coverage of micro- and macroeconomic theory, econometrics, financial markets, management of financial capital, and analysis of the valuation of stocks. Electives allow students an opportunity to pursue additional topics such as international finance. Supplemented by upper-level courses in mathematics, the program can also help prepare students for doctoral study in finance, economics, or related fields.

FACULTY RESEARCH INTERESTS

Ou Hu, Ph.D., Associate Professor of Economics
Financial markets; international finance; asset pricing

Tomi Ovaska, Ph.D., Associate Professor
Economics of happiness; distribution modes of foreign aid; economic development in transition economies

Joseph Palardy, Ph.D., Associate Professor of Economics
Macroeconomics; time series econometrics

Tod Porter, Ph.D., Professor and Chair of Economics
Labor markets; school finance; computer-aided instruction

Teresa Riley, Ph.D., Professor of Economics
Labor economics; health care financing; economics education

Albert (A.J.) Sumell, Ph.D., Associate Professor
Urban, housing, and environmental economics

Yogesh Uppal, Ph.D., Associate Professor of Economics
Applied microeconomics; applied econometrics; public economics

Ebenge Usip, Ph.D., Professor of Economics
Econometrics; time series analysis and forecasting; mathematical economics

Yaquin Wang, Ph.D., Associate Professor of Economics
Futures markets; behavioral finance

Fran Wolf, Ph.D., Professor of Accounting and Finance
Financial management; advanced financial analysis

ADMISSION REQUIREMENTS

In addition to the School of Graduate Studies and Research admission requirements, applicants must have completed at least one course in each of the following areas: principles of microeconomics, principles of macroeconomics, statistics, and calculus. Students who do not meet the requirements may be admitted on a provisional basis.

NONTHESIS OPTION

Students must complete 30 semester hours of graduate credit with a grade point average of 3.0 or higher for the M.A. in financial economics. The requirements for the degree include the following core courses plus two electives that account for a total of six semester hours.

Core Courses

Courses That May Be Waived

ECON 6904	Quantitative Methods	3 s.h.
FIN 6900	Financial Accounting and Finance for Decision Making	4 s.h.

Required Courses

ECON 6912	Microeconomic Theory	3 s.h.
ECON 6922	Macroeconomic Theory	3 s.h.
ECON 6939	The Economics of Financial Markets and Institutions	3 s.h.
ECON 6976	Econometrics	3 s.h.
ECON 6998	Research Seminar	3 s.h.
FIN 6921	Financial Management	3 s.h.
FIN 6924	Securities Analysis	3 s.h.
FIN 6939	Multinational Accounting and Finance <i>or</i>	
FIN 6953	Advanced Financial Analysis	3 s.h.

The paper produced in the research seminar will be reviewed by a committee of three graduate faculty from the Department. Electives are 6900-level graduate courses in the Department that are included in the M.A. program. One elective may be either a 5800-level economics swing course or a graduate-level course taught outside the Department that has been approved by the graduate coordinator.

THESIS OPTION

A thesis may be substituted for the research seminar and a three-semester-hour elective. The thesis, which will be a maximum of six semester hours of credit, must be submitted according to the general requirements of the School of Graduate Studies and Research. The student will defend the thesis in an oral examination before a committee of three or more faculty members of the Department. Students wishing to write a thesis must submit a thesis proposal and the names of three faculty members who are willing to serve on a thesis committee to the graduate coordinator prior to registering for thesis credit hours.

MASTER OF ARTS IN HISTORY

PROGRAM DIRECTOR

Brian Bonhomme
537 DeBartolo Hall
(330) 941-3453
bbonhomme@ysu.edu

PROGRAM DESCRIPTION

The Department of History offers a graduate program leading to the Master of Arts degree. Its curriculum combines American, European, and Transnational/Global areas. The program prepares students who seek any of the following: doctoral study in history or related fields, advancement in secondary and elementary education with a concentration in history and the social sciences, certification in applied history, and/or additional graduate study in a variety of professional areas. The program also provides the knowledge base for those pursuing history as an avocation. The program concentrates on research and primary materials, written analysis of research results, study of important monographs in all fields of history, and training in a number of specialized fields, such as oral history and historic preservation. The department prides itself on its small classes and close personal attention to all of its master's candidates.

FACULTY RESEARCH INTERESTS

Daniel Ayana, Ph.D., Professor
Africa; social and economic history

L. Diane Barnes, Ph.D., Professor
Nineteenth-century American history; historical editing

Brian Bonhomme, Ph.D., Associate Professor
Nineteenth- and 20th-century Russian history; environmental history

Eleanor Congdon, Ph.D., Associate Professor
Medieval; Renaissance; Mediterranean world; maritime history

Donna M. DeBlasio, Ph.D., Professor
Twentieth century US history; applied history; oral history

G. Mehera Gerardo, Ph.D., Associate Professor
Latin America; masculinity; American women's history

Thomas E. Leary, Ph.D., Associate Professor
Applied history; labor and industrial history

Martha Pallante, Ph.D., Professor and Chair
Early American studies; material culture; pedagogy

David Simonelli, Ph.D., Associate Professor
Britain; British Empire

Helene Sinnreich, Ph.D., Associate Professor
Germany; Judaic Studies

Anne York, Ph.D., Professor
Early modern, revolutionary and modern France; the Vietnam War; European women's history

ADMISSION REQUIREMENTS

Students must have an unrecalculated grade point average in undergraduate study of at least 2.75 (on a 4.0 scale) and a minimum of 16 semester hours of study in the field of history or a closely related discipline as an undergraduate (which may be waived upon petition to the Department of History). Each entering student is required to submit a score on the Graduate Record Examination and a graded academic writing assignment from a class.

DEGREE REQUIREMENTS

The Department of History offers three options to candidates for a Master of Arts degree in history. Option I is designed primarily for students who wish to continue studies toward a doctorate. Option II is designed primarily to meet the needs and improve the effectiveness of secondary teachers. Option III, the certificate in applied history, is designed to prepare students for career opportunities in that field.

Each candidate for the M.A. in history must pass a written and an oral examination in three fields of concentration. The examination will require factual and interpretative material, as well as bibliography and historiography.

Option I

- A total of 30 semester hours of graduate credit including thesis (six semester hours)
- Completion of a course in historiography (HIST 6901) and HIST 6900 Historical Research Methods
- A required thesis
- Successful completion of general written and oral examinations

Students working in American or British history will not, in most instances, be required to pass a foreign language examination. In areas where a foreign language is essential for research, the student will have to meet the requirement set by the department, which will include reading knowledge only (no speaking required).

Before any student under option I is allowed to take the written and oral examinations, the advisor will designate to the chair of the Graduate Committee of the Department of History which foreign language, if any, the student is required to know and how this requirement has to be met.

Students under option I are reminded that the Department of History expects that the thesis shall display a capacity for research in a variety of historical sources and the ability to interpret factual information and shall constitute a properly documented report of the completed research.

Option II

- A total of 33 semester hours of graduate credit
- Completion of a course in historiography (HIST 6901) and HIST 6900 Historical Research Methods
- Two satisfactory (B or better) graduate seminar papers submitted to two different instructors. The papers will be deposited with the graduate program director to remain permanently on file.
- Successful completion of general written and oral examinations
- Foreign language examination is not required

Option III (Certificate in Applied History)

The M.A. in history with certificate in applied history is designed both to give students a grounding in American history and historical research at the graduate level and to introduce them to ideas and techniques useful in applied history of the built environment. Students earning the certificate may find work with state or local preservation groups, museums, or government agencies. Students choose from among three possible tracks and then complete an additional 15 semester hours as described below.

- A total of 33 semester hours of graduate credit
- Completion of the coursework in one of the three tracks listed below

Track I: Historic Preservation		18 s.h.
HIST 5806	American Architectural History I	3 s.h.
HIST 5807	American Architectural History II	3 s.h.
HIST 5810	Conservation of Historic Built Environment	3 s.h.
HIST 6942	Introduction to Applied History	3 s.h.
HIST 6943	Practicum in Applied History	3 s.h.
HIST 6944	Applied History Internship	3 s.h.

Track II: Museum Studies		18 s.h.
HIST 6941	American Material Culture	3 s.h.
HIST 6942	Introduction to Applied History	3 s.h.
HIST 6943	Practicum in Applied History	3 s.h.
HIST 6944	Applied History Internship	3 s.h.
HIST 6955	Museum Curation and Interpretation I	3 s.h.
HIST 6956	Museum Curation and Interpretation II	3 s.h.

Track III: Applied History Sequence		18 s.h.
HIST 5806	American Architectural History I	3 s.h.
HIST 6940	Oral History	3 s.h.
HIST 6941	American Material Culture	3 s.h.
HIST 6942	Introduction to Applied History	3 s.h.
HIST 6944	Applied History Internship	3 s.h.
HIST 6946	Historical Editing	3 s.h.

- Completion of at least one course from one of the tracks listed above that is not the student's primary track
- Completion of HIST 6900 Introduction to Historical Research Methods, HIST 6901 Historiography, at least one seminar outside of applied history, and at least one readings course
- Two satisfactory (B or better) graduate seminar papers submitted to two different instructors. One shall be from a history seminar and must be a research paper using primary sources. The other shall be based upon a paper begun in a preservation course, expanded through additional research and reading as directed by the instructor. The papers will be deposited with the graduate program director to remain permanently on file.
- Successful completion of general written and oral examinations
- Foreign language examination is not required

MASTER OF ARTS IN INTERDISCIPLINARY COMMUNICATION

PROGRAM DIRECTOR

Adam Earnhardt
2000 Bliss Hall
(330) 941-3631
acearnhardt@ysu.edu

PROGRAM DESCRIPTION

The Master of Arts degree in Interdisciplinary Communication is designed for professionals in any organizational setting who wish to develop advanced communication knowledge and skills, as an end in itself or as preparation for a doctoral degree. In profit and non-profit, academic or non-academic settings, the program learning outcomes will be beneficial to anyone, but especially to managers and administrators.

Graduates will understand how theory guides practice in professional communication; write effectively for multiple audiences using current technologies; develop strategies for effective organizational marketing; acquire advanced analytical and research skills appropriate to organizations; gain effectiveness in face-to-face and computer mediated interpersonal relationships; and appreciate ethical communication choices necessary for today's professionals.

FACULTY RESEARCH INTERESTS

Communication Studies

Rebecca Curnalia, Ph.D., Assistant Professor

Informational and emotional content and effects of political communications; informational and emotional processing; political knowledge; political attitudes; vote choice; political motives; fear appeals; gender bias; grassroots campaigns

Adam C. Earnhardt, Ph.D., Associate Professor

Sports media and fandom; media ethics; social media platforms; applications and campaigns; interpersonal and organizational conflict management and negotiation; public speaking and communication pedagogy

Cary W. Horvath, Ph.D., Associate Professor

Nexus of media use and interpersonal communication; communibiology paradigm; business communication; use of media during 9/11; reality television

George McCloud, Ph.D., Professor

Organizational culture and communication; international communication with an emphasis on Asia, in particular on China; small group processes, in particular when such processes evolve in the workplace

Daniel J. O'Neill, Ph.D., Professor

Argumentation and rhetoric; application of argumentation for teaching critical thinking skills; communication pedagogy; rhetoric of film; parliamentary procedure

Jeff Tyus, Ph.D., Assistant Professor

Communication apprehension; intercultural communication and media usage; Black masculinity in America; images of women in the media; media relations and grassroots political campaigns; conflict management and forgiveness; sports communication and fandom; new communication media and international student usage

English (Professional Writing and Editing)

Julia M. Gergits, Ph.D., Professor and Chair

Technical and professional writing, editing, and communications; report and proposal writing; instructional design

Jay L. Gordon, Ph.D., Associate Professor
Rhetoric, technical and professional communication; document design; pedagogy of writing

Karen Kaiser Lee, Ph.D., Assistant Professor
Composition and rhetoric; digital media and rhetoric; publication issues and management; participatory media and culture; professional and technical writing

Marketing

Kendra Fowler, Ph.D., Assistant Professor
Services marketing; retailing

Bruce Keillor, Ph.D., Associate Professor
Marketing strategy; firm-level political strategy; cross-cultural marketing

James Kohut, Ph.D., Professor
Entrepreneurship; sales management and training

Peter A. Reday, Ph.D., Associate Professor
International business; personal selling; market research; business-to-business marketing

Mark Toncar, Ph.D., Professor
Effects of service learning in higher education; how consumers respond to specific types of advertising language and the effects that different ad language have on persuasion and memory; role of international franchising as a market entry strategy

Ying Wang, Ph.D., Assistant Professor
Integrated marketing communication; brand communication; international marketing; e-marketing

ADMISSION REQUIREMENTS

To be admitted to the program, students will need to submit the following for consideration:

- Satisfactory scores on the Graduate Record Examination (GRE)
- A current resume outlining academic and professional experience
- A letter of interest explaining how the candidate's academic and/or professional experience and goals align with the MA program
- Official transcript(s) documenting a minimum unrecalculated GPA of 3.0 on a 4.0 scale. The applicant must send one transcript from each college or university attended, except YSU, to The Office of Admissions.
- Three completed recommendation forms

A committee consisting of a faculty advisor from each of the three areas of study will objectively consider all applications and invite the most qualified applicants to interview.

DEGREE REQUIREMENTS

The Master of Arts in Interdisciplinary Communication will draw on the coursework and strengths of three concentration areas: communication, professional writing and editing (in English), and marketing. Students will take courses according to the following plan:

Core Courses (Thesis and Non-Thesis Option)		21 s.h.
CMST 6957	Organizational Communication Research	3 s.h.
CMST 6980	Applied Research Methods	3 s.h.
ENGL 6943	Technical Communication	3 s.h.
ENGL 6944	Document Design and Production	3 s.h.
MKTG 6900	Foundations of Marketing	3 s.h.
MKTG 6942	Strategic Marketing Management	3 s.h.

ECON 6900	Statistical Problems	3 s.h.
Non-Thesis Option		15 s.h.
Elective Courses		9 s.h.
<i>Students will take a total of three, 3-credit courses from at least two of the three concentration areas</i>		
CMST 6970	Professional Internship	3 s.h.
CMST 6994	Capstone (Applied Research Paper)	3 s.h.
Thesis Option		15 s.h.
Elective Courses		6 s.h.
<i>Students will take a total of two, 3-credit courses from at least two of the three concentration areas</i>		
CMST 6970	Professional Internship	3 s.h.
CMST 6995	Thesis (Prospectus, Completed Study)	6 s.h.
Total hours required for degree		36 s.h.

MASTER OF BUSINESS ADMINISTRATION

DEAN OF THE COLLEGE OF BUSINESS ADMINISTRATION

Betty Jo Licata
3409 Williamson Hall
(330) 941-2737
bjlicata@ysu.edu

M.B.A. COORDINATOR

Monique Bradford
1120 Williamson Hall
(330) 941-3069
mrbradford@ysu.edu

PROGRAM DESCRIPTION

The Master of Business Administration program is designed primarily to prepare students for increasing levels of managerial responsibilities and executive positions. The program provides qualified students with a broad-based knowledge of accounting, finance, management, and marketing, as well as their interrelationships and applications. M.B.A. graduates are educated to be capable of identifying complex problems, conducting critical analyses, and making informed and ethical decisions in the dynamic global environment.

ACCREDITATION

The Master of Business Administration program is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB) International. Fewer than one-third of the 1200 business schools in the United States have earned this prestigious accreditation.

FACULTY RESEARCH INTERESTS

Huaiyu (Peter) Chen, Ph.D., Associate Professor of Accounting and Finance
Investment; financial derivatives

Ramesh Dangol, Ph.D., Assistant Professor of Management
Strategic management and operations management

R. V. Eunni, D.B.A., Professor of Management
Strategic management; international strategy; emerging markets

Birsen Karpak, D.B.A., Professor of Management
Management science; operations management

Ram Kasuganti, D.B.A., Professor and Chair of Management
Quality management; strategy and policy; international business; materials management

Anthony J. Kos, Ph.D., Associate Professor of Management
Organizational behavior; human resource management; strategic management

J. Rajendran Pandian, Ph.D., Assistant Professor of Management
Competitive strategy; international strategy; corporate social responsibility

Gang Peng, Ph.D., Associate Professor of Management
Technology adoption and diffusion; IT investment and impact of IT; Open Source software development; product innovation & management; social networks; virtual teams

John Russo, Ed.D., Professor of Management
Labor relations; industry studies

David E. Stout, Ph.D., Professor of Accounting and Finance
Accounting curriculum development; practice-based case studies; cross-disciplinary studies

Mark Toncar, Ph.D., Professor of Marketing
International marketing

Fran Wolf, Ph.D., Professor of Accounting and Finance
Financial management; advanced financial analysis

Xiaolou Yang, Ph.D., Assistant Professor of Accounting and Finance
Corporate finance; investments; financial markets and institutions

ADMISSION REQUIREMENTS

Regular Admission

In addition to the minimum requirements for admission to the School of Graduate Studies and Research, requirements for regular admission to the program include a satisfactory score on the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT). A GRE score of 300 or higher (verbal + quantitative) or a GMAT score of 460 or higher is strongly recommended for admission to the program. The GMAT/GRE requirement will be waived for individuals who hold a terminal degree such as a JD, MD, PhD, DMD, or DDS.

Applicants must also submit a resume and a letter of intent stating one's professional goals and how the MBA will help fulfill said goals. An optional personal interview and/or additional information may be requested by the program's admission committee.

DEGREE REQUIREMENTS

31-49 s.h.

There are three levels of coursework in the M.B.A. program:

Level I Foundations (waiveable)	18 s.h.
Level II Advanced requirements	22 s.h.
Level III Electives	9 s.h.

A student entering with undergraduate business administration coursework may receive waivers of level I courses. Level I foundations courses must be satisfied before proceeding to the corresponding advanced course disciplines in levels II and III.

Level I: Foundation Courses

18 s.h.

Students who have met one or more level I requirements as a part of their undergraduate coursework may be eligible for course waivers. Students are required to demonstrate computer proficiency in addition to successfully completing the following required courses:

ECON 6900	Statistical Problems	3 s.h.
ECON 6901	Basic Economic Analysis	3 s.h.
FIN 6900	Financial Accounting and Finance for Decision Making	4 s.h.
MGT 6900	Foundations of Management	2 s.h.
MGT 6916	Quantitative Analysis for Business Decision	2 s.h.
MGT 6917	Information Systems for Management	2 s.h.
MKTG6900	Foundations of Marketing	2 s.h.

Level II: Advanced Courses (required for all M.B.A. students)

22 s.h.

ACCT 6902	Management Accounting Systems	3 s.h.
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BUS 6920	Global Business Environment*	3 s.h.
FIN 6921	Financial Management	3 s.h.
MGT 6921	Operations Management	3 s.h.
MGT 6961	Optimizing Human Performance in Organizations	3 s.h.
MGT 6965	Strategic Management and Leadership**	3 s.h.
MGT 6967	The M.B.A. Integrated Project***	1 s.h.
MKTG6942	Strategic Marketing Management	3 s.h.

All level I coursework and six semester hours of level II coursework should be completed before proceeding to level III electives.

Level III: Elective Courses 9 s.h.

Total Hours Required for Degree 31–49 s.h.

ACCOUNTING SPECIALIZATION

Effective in the year 2000, Ohio residents wishing to sit for the Certified Public Accountant (CPA) Examination are required to have completed 150 semester hours of education. To assist our students in meeting that requirement and to enhance their preparation for the exam, the M.B.A. with an accounting specialization is strongly recommended. M.B.A. coursework for the accounting option is the same as the regular M.B.A. in terms of advanced courses and total hours; however, specific course requirements should also be met. With proper planning, both an undergraduate degree and a graduate degree may be earned in five years by taking graduate courses in the senior year. Advanced planning is essential to meet degree and time requirements. Please see the program coordinator or Department chair for a curriculum sheet and further details.

*Cross-listed courses.

** Taken as the last course in the program of study.

*** Taken concurrently with MGT 6965.

MASTER OF COMPUTING AND INFORMATION SYSTEMS

PROGRAM DIRECTOR

John Sullins
307A Meshel Hall
(330) 941-1806
john@cis.ysu.edu

PROGRAM DESCRIPTION

The Master of Computing and Information Systems is designed to emphasize important applied areas of computing, providing background in the overall structure of information systems, in-depth knowledge in vital areas, such as databases and networking, and opportunities to learn a variety of other important, emergent, and current areas of computing, such as web design, application development, and computer security.

The program is designed to serve students with some background in computing (possibly work related) but who need additional deeper, more comprehensive, or more up-to-date knowledge of computing/information systems in order to make career advancements or to better utilize the technology that they are required to use on a daily basis.

Like most applications of information systems, the program is also interdisciplinary in nature to allow students with a background in areas other than information systems to learn how to apply information systems to those areas. A number of interdisciplinary courses are supported, and students may take elective courses outside of the department.

FACULTY RESEARCH INTERESTS

Alina Lazar, Ph.D., Associate Professor
Applied machine learning; database mining; agent-based simulations, and parallel programming

Bonita Sharif, Ph.D., Assistant Professor
Software engineering and visualization; eye tracking evaluation of software artifacts; UML layout techniques and quality measurement

John R. Sullins, Ph.D., Associate Professor
Artificial intelligence; game design; neural networks and expert systems

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, students must also have previous courses in information systems equivalent to CSIS 1590 Survey of Computer Science and Information Systems, previous courses in computer programming equivalent to CSIS 2610 Programming and Problem Solving and CSIS 3700 Data Structures and Objects, previous courses in databases equivalent to CSIS 3722 Development of Databases, and previous courses in networking equivalent to either CSIS 3723 Networking Concepts and Administration or CSIS 3783 Cisco Networking Academy II. In addition, technical communication skills equivalent to INFO 3704 Business Communications are required. Equivalent employment-related experience may be substituted for some of these requirements. The experience must be described in detail and reliably documented (in a letter of recommendation from an employer, for example).

Students are also required to submit a résumé, a written statement describing their past experience in computing/information systems (both employment and academic), and their reasons and goals for applying to the program. The Graduate Record Examination (general test) is also required and students must obtain an acceptable score.

Students not satisfying all admission requirements may be admitted with provisional status subject to the approval of the graduate program director and the graduate dean. Such students will generally be required to take specified undergraduate and/or foundation courses, which will not count toward the master's degree.

DEGREE REQUIREMENTS

A minimum of 33 approved semester hours of credit (at least half of which must be at the 6900 level) is required for the Master of Computing and Information Systems. A core of CSCI 6920, CSCI 6950, and either CSCI 6921, CSCI 6940, or CSCI 6951 is required of all students. Additionally, a minimum of 21 semester hours of graduate electives consisting of approved graduate and/or swing courses is also required. Up to nine semester hours may be taken in departments other than Computer Science and Information Systems. For graduation, the student must complete either a thesis (at least three semester hours of CSCI 6999) or a capstone project (at least three semester hours of CSCI 6990). This project is meant to explore and apply some area of computing and information systems and is subject to the approval of the major advisor.

The student's course of study will be determined in conjunction with the student's major advisor and, possibly, with an advisor from outside of the department, particularly if the student is interested in applying information systems to some other area. This course of study will be based on the student's area of specialization, background interests, and career interests. It may also include graduate courses from other areas where appropriate. A cohesive individual curriculum program of approved elective courses will be developed in conjunction with the student's major advisor after nine semester hours of core courses have been completed.

MASTER OF FINE ARTS IN CREATIVE WRITING

CAMPUS COORDINATOR

Chris Barzak
237 DeBartolo Hall
(330) 941-1653
cmbarzak@ysu.edu

NEOMFA DIRECTOR

Mike Geither
Cleveland State University
2121 Euclid Ave.
Cleveland, Ohio 44114
(216) 687-3955
neomfa@kent.edu

PROGRAM DESCRIPTION

The Master of Fine Arts program at Youngstown State University is part of the Northeast Ohio Universities Master of Fine Arts (NEOMFA) in Creative Writing. The NEOMFA is a multidisciplinary, interdepartmental, and interinstitutional program that provides opportunities for students to pursue the terminal degree in creative writing. The NEOMFA draws its faculty from departments at Youngstown State University, Cleveland State University, Kent State University, and The University of Akron.

This program offers workshops in poetry writing, fiction writing, creative nonfiction writing, and playwriting, as well as courses in literature, literary craft and theory, literary translation, and professional writing and editing. The M.F.A. prepares graduates to pursue opportunities in arts management; in many areas of communication, publicity, and marketing; and in teaching creative writing, literature, and expository writing. Graduates of the program are ready to contribute to the literary life of the nation and the cultural life of the community. The program requires 48 semester hours of coursework.

FACULTY RESEARCH INTERESTS

Maggie Anderson, M.A., Professor of English (Emeritus)
Poetry
Kent State University

Brian James Baer, Ph.D., Associate Professor of Modern and Classical Language Studies
Literary translation: Russian
Kent State University

Christopher Barzak, M.F.A., Assistant Professor of English
Fiction
Youngstown State University

Marya Bednerik, Ph.D., Professor of Theatre
Playwriting
Kent State University

Sharon Massingale Bell, Ph.D., Assistant Professor of Modern and Classical Language Studies
Literary translation: French
Kent State University

Mary Biddinger, M.F.A., Ph.D., Associate Professor of English
Poetry
The University of Akron

Philip Brady, Ph.D., Professor of English
Poetry; creative nonfiction
Youngstown State University

Roger Craik, Ph.D., Professor of English
Poetry
Kent State University

Maryann DeJulio, Ph.D., Professor of Modern and Classical Language Studies
Literary translation: French and Italian
Kent State University

Michael Dumanis, Ph.D., Assistant Professor of English
Poetry
Cleveland State University

Radd K. Ehrman, Ph.D., Associate Professor of Modern and Classical Language Studies
Literary translation: classics
Kent State University

Mike Geither, M.F.A., Associate Professor of English
Playwriting
Cleveland State University

David Giffels, M.A., Assistant Professor of English
Creative Nonfiction
The University of Akron

Adrienne Gosselin, Ph.D., Associate Professor of English
African-American literature; American literature; creative writing
Cleveland State University

William Greenway, Ph.D., Professor of English
Poetry
Youngstown State University

Donald Hassler, Ph.D., Professor of English
Poetry; science fiction
Kent State University

Carol Maier, Ph.D., Professor of Modern and Classical Language Studies
Literary translation: Spanish
Kent State University

Françoise Massardier-Kenney, Ph.D., Professor of Modern and Classical Language Studies
Literary translation: French
Kent State University

Robert Miltner, Ph.D., Associate Professor of English
Poetry
Kent State University

Varley O'Connor, M.F.A., Assistant Professor of English
Fiction and creative nonfiction
Kent State University

Craig Paulenich, M.F.A., Ph.D., Associate Professor of English
Poetry
Kent State University

Robert Pope, M.F.A., Professor of English
Fiction
The University of Akron

Imad Rahman, M.F.A., Assistant Professor of English
Fiction
Cleveland State University

Steven Reese, Ph.D., Professor of English
Poetry
Youngstown State University

Joanna Trzeciak, Ph.D., Assistant Professor of Modern and Classical Language Studies
Literary translation: Polish and Russian
Kent State University

Kelly Washbourne, Ph.D., Assistant Professor of Modern and Classical Language Studies
Literary translation: Spanish and Portuguese
Kent State University

Eric Wasserman, M.F.A., Assistant Professor of English
Fiction
The University of Akron

Catherine Wing, M.F.A., Assistant Professor of English
Poetry
Kent State University

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admissions requirements, applicants must submit three letters of recommendation and a substantive portfolio of creative work that includes either 15 to 20 pages of poetry or literary translation of poetry or 30 pages of fiction, creative nonfiction, playwriting, or prose literary translation. All portfolios must include at least one finished work. All items in the portfolio should be double-spaced. The letters of recommendation should come from individuals familiar with the applicant's academic or professional background. The letters should include an assessment of the applicant's current work quality and ability to successfully complete graduate training. Application to the M.F.A. program authorizes staff members at participating institutions to have access to all student academic records and application materials.

The NEOMFA program accepts students for fall admission only.

DEGREE REQUIREMENTS

All M.F.A. students must complete 48 semester hours in graduate-level courses. There are six areas of coursework in the M.F.A.: writing workshops (15 semester hours), craft and theory courses (nine semester hours), literature courses (six semester hours), internship (three semester hours), electives (nine semester hours), and thesis (six semester hours). The thesis must be submitted according to the general requirements established by the School of Graduate Studies and Research. The student is required to defend the thesis in an oral presentation before a committee of graduate faculty from a minimum of two consortium schools.

ADVISING

All students should have their schedules approved by a graduate faculty advisor every semester. After initial enrollment in the program, the student and his or her advisor will establish a coursework plan including alternate course selections. An advisor may be chosen from the faculty of any consortium school.

MASTER OF HEALTH AND HUMAN SERVICES

PROGRAM DIRECTOR

Joseph Lyons
1086 Cushwa Hall
(330) 941-3658
jplyons@ysu.edu

PROGRAM DESCRIPTION

The Master of Health and Human Services is a collaborative degree between The Bitonte College of Health and Human Services and the Warren P. Williamson, Jr. College of Business Administration. The program accommodates students from health and human services professions who require the skills and abilities for supervisory/managerial positions or who desire competence in health promotion or physical education skills and methods in the community. The program is structured as an evening college program and can also be completed online. After completion of an academic core of coursework, students may concentrate in either health promotion, administration for health and human service professions, or physical education.

FACULTY RESEARCH INTERESTS

Joseph P. Lyons, Sc.D., Assistant Professor of Health Professions
Health informatics; voice recognition; electronic medical records

John M. Hazy, Ph.D., Assistant Professor of Criminal Justice
Violence prevention; community health; methodology

Salvatore Sanders, Ph.D., Associate Professor of Health Professions
Health behavior; health education; technology/instructional technology

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, applicants must complete undergraduate courses in research methodology, statistics, ACCT 2602 Financial Accounting, and AHLT 4810 Management Skills for Health Professionals or MGT 3725 Fundamentals of Management, or their equivalent. Students should complete any undergraduate deficiency coursework before completion of the third semester of graduate work and must complete it prior to enrolling in related graduate-level courses. Also, students must submit three letters of reference: one from a faculty member, one from an employer, and one from another source, or two from faculty members and one from another source. Regular admission requires an unrecalculated cumulative undergraduate grade point average of at least 3.0 (on a 4.0 scale).

DEGREE REQUIREMENTS

There are three areas of coursework in the M.H.H.S.: an academic core, concentration area, and thesis or nonthesis option. The academic core consists of 23 semester hours distributed among the following course areas: tools (five semester hours), management skills (six semester hours), and issues in health and human services (12 semester hours). A total of ten to 14 semester hours of coursework is devoted to a concentration area—health promotion (six semester hours), administration for health and human service professions (six semester hours), and physical education (six semester hours)—and the thesis (four semester hours) or nonthesis option (eight semester hours). Students with inadequate professional experience will be required to complete a one- to two-semester hour practicum. The thesis must be submitted according to the general requirements established by the School of Graduate Studies and Research. The student is required to defend the thesis in an oral presentation before a committee of graduate faculty from a minimum of two academic disciplines. Students selecting the nonthesis option must successfully complete a comprehensive examination and additional courses for graduation.

Academic Core		23 s.h.
Tools*		5 s.h.
CJFS 6942	Research and Statistics	3 s.h.
MGT 6917	Management Information Systems	
	<i>or</i>	
HHS 6972	Information Systems for Health and Human Services Management	2 s.h.
Management Skills**		6 s.h.
MGT 6961	Optimizing Human Performance in Organizations	
	<i>or</i>	
HHS 6971	Optimizing Performance and Commitment	3 s.h.
MGT 6962	Organizational Staffing Process	
	<i>or</i>	
MGT 6996	Research Problems	
	<i>or</i>	
HHS 6970	Organizational Behavior in Health Care	3 s.h.
Issues in Health and Human Services		12 s.h.
HHS 6949	Principles of Community Health Practice	3 s.h.
HHS 6953	Health Behavior	3 s.h.
HHS 6958	Health Services Issues	3 s.h.
HHS 6980	Seminar	3 s.h.
Concentration Areas (with thesis/nonthesis option stated below)		10–14 s.h.
Students must choose a concentration area from the following options:		
Health Promotion		6 s.h.
HHS 6959	Foundation and Planning	3 s.h.
HHS 6960	Implementation and Evaluation	3 s.h.
	<i>or</i>	
Administration for Health and Human Services Professions		6 s.h.
HHS 6918	Program Planning and Evaluation	2 s.h.
HHS 6922	Planning and Fiscal Management	4 s.h.
	<i>and</i>	
Thesis Option		4 s.h. required
HHS/HMEC 6999	Thesis	1–4 s.h.
	<i>or</i>	
Nonthesis Option		8 s.h.
HHS 6981	Grant Writing (required)	2 s.h.
(Elective Courses)		6 s.h.
AHLT 5807	Epidemiology for the Health Care Practitioner	3 s.h.
AHLT 5840	Comparative Health Care Systems	4 s.h.
HHS 6950	Professional Codes in Healthcare	3 s.h.
COUN 6926	Introduction to Chemical Dependency	2 s.h.
FNUT 5872	Maternal and Child Nutrition	3 s.h.
FNUT 5873	Nutrition and Aging	3 s.h.

* Prerequisites for the tools courses include undergraduate research methodology, a statistics course, and ACCT 2602 Financial Accounting or equivalent.

** Prerequisite for the management skills component is AHLTH 4810 Management Skills for Health Professionals, MGT 3725 Fundamentals of Management, or equivalent.

HMEC 6925	Current Concepts in Nutrition	3 s.h.
MGT 6971	Business and Society	3 s.h.
SOC 6905	Social Gerontology	3 s.h.

Or other appropriate courses with prior approval of the faculty advisor

Note: CHHS 6990 Practicum for Health and Human Services (one to two semester hours) may also be required for some graduate students after the faculty advisor evaluates students' professional experiences.

Physical Education **6 s.h.**

HPES 6900	Pedagogical Analysis	3 s.h.
HPES 6903	Curriculum Development	3 s.h.

and

The following three courses (total eight semester hours) are required for the nonthesis option in physical education:

CHHS 6981	Grant Writing	2 s.h.
HPES 6905	Contemporary Issues in Sport Pedagogy	3 s.h.
HPES 6920	Mechanical Analysis of Motor Movements	3 s.h.

or

Four semester hours of thesis are required for the thesis option:

CHHS/HMEC 6999	Thesis	1-4 s.h.
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Total Hours Required for Degree **33-37 s.h.**

MASTER OF MUSIC

PROGRAM DIRECTOR

Stephen Ausmann
3039 Bliss Hall
(330) 941-1835
swausmann@ysu.edu

PROGRAM DESCRIPTION

Master's degrees are offered in music education, music performance, music history, music theory/composition, and jazz studies through the Dana School of Music, which was founded in Warren, Ohio, in 1869 as Dana's Musical Institute. A member of the National Association of Schools of Music, Dana currently enrolls 300 undergraduate and graduate students. The Dana School of Music is designated an All-Steinway School, featuring 68 Steinway pianos in addition to six mechanical action organs, two harpsichords, an electronic music laboratory, and 80 acoustically treated practice rooms, all housed in the \$6 million Bliss Hall. In addition, the University library contains a large music section, especially notable for its collected and scholarly editions, while the Multimedia Center holds several thousand recordings, and practical edition scores.

FACULTY RESEARCH INTERESTS

Stephen W. Ausmann, Ph.D., Professor
Music teacher preparation/retention; urban teacher (music) education

Ewelina Boczkowska, Ph.D., Assistant Professor
Music, memory, and Polish film; "auteur" cinema; American musicals; Chopin; music in the '60s

Michael Crist, Ph.D., Professor
Music performance (trombone); aesthetics; music teacher training; computers in music

Kent Engelhardt, Ph.D., Professor
Charlie Parker; Bebop; Kansas City Jazz

Francois Fowler, D.M., Associate Professor
Guitar performance, pedagogy, and literature

Stephen L. Gage, Ed.D., Professor
Instrumental music education; conducting

Michael Gelfand, M.M., Professor
Cello performance; chamber music; orchestra

Randall Goldberg, Ph.D.
Historical musicology; early modern Europe; 18th century music; Jewish identity

Hae-Jong Lee, D.M.A., Associate Professor
Choral conducting and literature; voice studies

David S. Morgan, D.M.A., Associate Professor
Jazz performance; composition; music theory

Caroline Oltmanns, D.M.A., Professor
Piano performance

Robert Rollin, D.M.A., Professor
Music composition; music theory and analysis; 20th-century music; film music; Native American music; Jewish

music; cross-cultural connections between various ethnic groups

Jena Root, Ph.D., Associate Professor

Early 20th Century music; music theory pedagogy; technology in music instruction

Glenn Schaft, D.M.A., Associate Professor

Percussion; classical, contemporary, jazz, Afro-Cuban, and Brazilian music

James Umble, D.M.A., Professor

Technology in education; music technology; music performance and pedagogy (saxophone); curriculum development in the arts; and integrated arts

Kathryn Umble, D.M.A., Associate Professor

Japanese flute; flute and guitar

ADMISSION REQUIREMENTS

Applicants for admission to graduate study in the Master of Music degree must present a baccalaureate degree in music from an accredited college or university. Admission requires an unrecalculated undergraduate grade point average of at least 2.7 (on a 4.0 scale). Students with less than a 2.7 average must provide satisfactory scores on the aptitude portion of the Graduate Record Examination. Upon admission and before the end of the first semester of graduate study, each student must take a placement examination in music history and music theory. Failure to do so will result in an addition of six semester hours (three semester hours in music theory, three semester hours in music history) to the 32-semester-hour degree program. Theory/composition applicants must submit evidence of compositional or analytic activity. All performance degree applicants must audition on their principal instrument for acceptance to the appropriate applied music level. Students with a major in conducting performance must show evidence of conducting skill through an audition and interview. Students wishing to enroll in any music course under non-degree status must have the approval of the Coordinator of Graduate Studies in Music.

DEGREE REQUIREMENTS

- Completion of all requirements outlined in respective courses of study (see next page).
- Candidates must meet whatever undergraduate foreign language requirements are appropriate to their major. Music history and literature majors must pass a written examination in at least one foreign language, preferably French or German, before initiating thesis research. Students with a major in voice performance are expected to have completed four semester hours each in French, German, and Italian, or the equivalent.
- Students who fail to meet the standards set by the School of Music may, upon recommendation of the Dana Graduate Committee, be required to withdraw at the end of the semester. Any student with an overall grade point average below 3.0 (i.e., not in good standing) for two consecutive semesters shall be dismissed from the master's program in music.
- A final qualifying examination is required of all M.M. candidates. Procedural regulations governing the final qualifying examination are available from the office of the faculty member in charge of graduate studies in music.
- Students who write a thesis must complete an oral defense that shall be conducted by a committee composed of three graduate faculty members, one of whom will be from outside the student's major area. The thesis committee shall be appointed by the student's advisor when the thesis proposal is accepted by the Graduate Committee.
- Thesis students who have completed 6990 and 6991, Thesis I and II (2+2 s.h.), and have completed all course requirements but have not defended the thesis are required to maintain current student status if they expect to receive advisor or committee assistance or utilize University services (e.g., library, computer, parking, and so forth). This can be accomplished by registering for one hour of Music 6991.
- Performance majors will submit a document supporting the recital. Information about the recital document is available from the Coordinator of Graduate Studies in Music.

Performance	32 s.h.
6900-level applied*	12 s.h.
6942 or 6973	3 s.h.
Music history/music theory electives (A/B/E)**	9 s.h.
music literature (F)	3 s.h.
Music electives (A-F)	5 s.h.
Music History and Literature	32 s.h.
Music history/literature (B/E)	15 s.h.
6942 or 6973	3 s.h.
Music theory (A)	3 s.h.
5800- or 6900-level applied or electives (A-F)	7 s.h.
Thesis (2+2 s.h.)	4 s.h.
Music Theory and Composition	32 s.h.
Music theory (A)***	15 s.h.
6942 or 6973	3 s.h.
Music history (B/E)	3 s.h.
5800- or 6900-level applied or electives (A-F)	7 s.h.
Thesis (2+2 s.h.)	4 s.h.
Music Education	32 s.h.
Music education (C)****	9 s.h.
6970 and 6978	6 s.h.
6942 or 6973	3 s.h.
Music history/music theory electives (A/B/E)	9 s.h.
5800- or 6900-level applied or electives (A-F)	5 s.h.
Jazz Studies	32 s.h.
6935, 6936, and 6946	9 s.h.
6942	3 s.h.
Music theory (A)	3 s.h.
Music history (B/E)	3 s.h.
Jazz Ensemble	2 s.h.
Jazz Combo	2 s.h.
Applied study or electives (A-F)*****	6 s.h.
Thesis (2+2 s.h.)	4 s.h.

(A) Courses to be selected from List A

(B) Courses to be selected from List B

(C) Courses to be selected from List C

(D) Courses to be selected from List D

(E) Courses to be selected from List E

(F) May include up to two semester hours of ensemble courses and up to four additional semester hours of

* Conducting majors must take four semester hours of vocal or instrumental applied and eight semester hours of applied conducting.

** Both areas must be represented in the coursework.

*** Students in the theory emphasis should take MUSIC 6913 Pedagogy of Theory

**** Music education majors may count up to four semester hours of S/U graded workshops toward degree fulfillment.

***** Must represent two areas.

applied music courses. Selection is subject to results of entrance placement examination in music theory and music history. All music electives must be approved by the advisor.

Music Theory and Composition (A)

5821, 5822	Composition for Minors	2+2 s.h.
5828	Music Technology	3 s.h.
5830	Materials of 20th-Century Music	3 s.h.
5831	Modal Counterpoint	3 s.h.
5832	Tonal Counterpoint	3 s.h.
5833	Theory Seminar	3 s.h.
5834	Electronic Music	3 s.h.
5840	Instrumentation	3 s.h.
6903, 6904	Advanced Composition	3+3 s.h.
6913	Pedagogy of Theory	3 s.h.
6916	Fugue	3 s.h.
6921, 6922	Seminar in Materials of Music	3+3 s.h.
6930, 6931, 6932, 6933	Baroque, Classic, Romantic, 20th-Century Music	3+3+3+3 s.h.
6935	Jazz Theory	3 s.h.
6936	Jazz Composition	3 s.h.

Music History (B)

5871	Baroque	3 s.h.
5872	Eighteenth Century and the Viennese Classical School	3 s.h.
5873	Opera History	3 s.h.
5874	Nineteenth Century: The Romantic Period	3 s.h.
5878	Selected Topics in Music History	3 s.h.
6940	Music in the Middle Ages	3 s.h.
6941	Music in the Renaissance	3 s.h.
6943	Seminar in Musicology	3 s.h.
6946	Jazz History	3 s.h.

Music Education (C)

5814	Selected Topics in Music Education	2 s.h.
5841	Music Workshop	1-3 s.h.
6970	Foundations of Music Education	3 s.h.
6972	Seminar in Music Education	3 s.h.
6975	Music and the Humanities	3 s.h.
6976	Directed Study in Conducting	3 s.h.
6978	Contemporary Trends in Music Education	3 s.h.
6979	Workshop in Music Education	1-3 s.h.
6981	Elementary School Music Practicum	3 s.h.
6982	Secondary School Music Practicum	3 s.h.

Pedagogy (D)

5858	Piano Pedagogy	3 s.h.
5880	Vocal Pedagogy	1 s.h.
6913	Pedagogy of Theory	3 s.h.
6950	Conducting Pedagogy	2 s.h.

Music Literature (E)

5860	Keyboard Literature	3 s.h.
5879	Vocal Literature	3 s.h.
6944	Seminar in Symphonic Literature	3 s.h.
6945	Selected Topics in Music Literature	3 s.h.

Music Electives (F)

6942	Introduction to Music Bibliography	3 s.h.
6973	Research Methods and Materials in Music Education	3 s.h.
6990	Thesis I	2 s.h.
6991	Thesis II	2 s.h.
6992	Independent Projects	1-4 s.h.

MASTER OF PUBLIC HEALTH

PROGRAM DIRECTORS

Joseph L. Mosca, Dean of the Bitonte College of Health and Human Services
2064 Cushwa Hall
(330) 941-3320
jmosca@ysu.edu

Keisha T. Robinson, YSU Program Coordinator
1080 Cushwa Hall
(330) 941-1901
ktrobinson@ysu.edu

Amy Lee, CEOMPH Program Director
Consortium of Eastern Ohio Master of Public Health
NEOMED
(330) 325-6179
afl@neomed.edu

PROGRAM DESCRIPTION

The Master of Public Health program at Youngstown State University is part of Consortium of Eastern Ohio Master of Public Health (CEOMPH). CEOMPH is a multidisciplinary, interdepartmental, and interinstitutional program that provides opportunities for graduate studies in public health. It is housed in the Bitonte College of Health and Human Services. Although the M.P.H. degree is awarded by Youngstown State University, the M.P.H. program is consortium-based. It draws its faculty from several departments at The University of Akron, Cleveland State University, the Northeastern Ohio Medical University (NEOMED), Ohio University, and Youngstown State University.

The mission of the Consortium of Eastern Ohio Master of Public Health program is to provide accredited public health education designed for the working professional. It does this through a collaborative learning community, drawing on the collective resources of its five member institutions and partnering community agencies. The program strives to produce respected and competent professionals able to improve public health practice, especially in eastern Ohio. Other unique features of the program include the use of distance learning and Saturday course offerings, which accommodate the typical professional student's work schedule.

The program is structured as a weekend college program with core courses scheduled on Saturdays from 9:00 a.m. to 4:00 p.m. Alternate scheduling will be considered to accommodate students with special circumstances. Students take core courses at any one of the distance learning sites on the participating campuses. Electives are taken at The University of Akron, Cleveland State University, NEOMED, Ohio University, or YSU. Electives are taken on the campus where they are being offered and may be taken anytime during the program.

FACULTY RESEARCH INTERESTS

Guang-Hwa (Andy) Chang, Ph.D., Professor of Mathematics and Statistics
Biostatistics
Youngstown State University

Alan M. Jacobs, Ph.D., Professor of Geological and Environmental Sciences
Environmental health sciences in public health
Youngstown State University

Amy Lee, M.D., M.P.H., M.B.A., Associate Professor of Community Medicine
Public health
NEOMED

Nancy Mosca, Ph.D., Professor of Nursing
Public health nursing, school health
Youngstown State University

Rachael J. Pohle-Krauza, Ph.D., R.D., L.D., Associate Professor
Nutrition
Youngstown State University

Keisha T. Robinson, Dr. P.H., M.P.H., Assistant Professor
Epidemiology and health education/health promotion
Youngstown State University

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, applicants must hold a bachelor's degree from an accredited college or university, with a minimum GPA of 2.75. Applicants must have successfully completed a college-level mathematics or statistics course, and a college social science or natural science course, and have acceptable GRE scores within the last five years.

GRE scores may be waived if the applicant has a professional degree (master's or doctorate) in a relevant area. Official results from other equivalent standardized tests used for graduate admissions, also taken within the last five years, may be substituted. These accepted tests are the following: DAT, GMAT, LSAT, MCAT, and PCAT. Please use institution code #1903 in the designated area of your GRE application form. TOEFL is required from applicants from countries where English is not the language of instruction; the minimum score must be 550 (paper-based) or 213 (computer-based) or 79-80 with read/speak/listen=17, write=14 (Internet-based). Please use the institution code #1903 in the designated area on your TOEFL application form.

Two years of work experience in a relevant field is highly recommended. The applicant must provide three letters of recommendation from individuals familiar with the applicant's academic or professional background. If the applicant has not been involved in an academic institution for two years or more, he or she may submit letters of recommendation by supervisors from his or her place of employment. The letters should include an assessment of the applicant's current work quality and ability to successfully complete graduate training. Letters are to be mailed to the following address:

M.P.H. Admissions Committee
Consortium of Eastern Ohio Master of Public Health
NEOMED
4209 State Route 44
PO Box 95
Rootstown, Ohio 44272

DEGREE REQUIREMENTS

The curriculum consists of eight core courses, directed elective, required capstone project, and electives. In addition, a portfolio, and an exit presentation are required. Students should plan on taking the core courses as a cohort. Core courses will be offered on Saturdays, one course in the morning and one in the afternoon. Students may take core courses in any one of the distance learning classrooms at the partner universities. Distance learning will involve interactive electronic technology and web-based learning. Students may take electives at any time in the program, and may select an elective from any of the partner universities from a list of approved electives.

If the student is interested in an elective that is not on the approved list, an Elective Approval form must be submitted, along with the course syllabus, for review and approval by the CEOMPH Curriculum Committee:

CEOMPH Curriculum Committee
Consortium of Eastern Ohio Master of Public Health
NEOMED
4209 State Route 44
PO Box 95

Rootstown, Ohio 44272

Students will be assigned an advisor upon entering the program. The advisor will offer guidance on choosing electives appropriate to student career goals and interest. Students must maintain a minimum GPA of 3.0. The program requires 42 semester hours to comply with accreditation criteria.

Core Courses		24 s.h.
MPH 6901	Public Health Concepts	3 s.h.
MPH 6902	Social and Behavioral Sciences in Public Health	3 s.h.
MPH 6903	Epidemiology in Public Health	3 s.h.
MPH 6904	Biostatistics in Public Health	3 s.h.
MPH 6905	Health Services Administration in Public Health	3 s.h.
MPH 6906	Environmental Health Sciences in Public Health	3 s.h.
MPH 6907	Grant Writing in Public Health Practice	3 s.h.
MPH 6908	Public Health Practice and Issues	3 s.h.
Electives		12 s.h.
MPH 6994	Individual Investigation in Public Health	1-3 s.h.
MPH 6996	Practicum	3 s.h.
Required Project		6 s.h.
MPH 6998	M.P.H. Capstone Project I	3 s.h.
MPH 6999	M.P.H. Capstone Project II	3 s.h.
Total Hours Required for Degree		42 s.h.

MASTER OF RESPIRATORY CARE

INTERIM PROGRAM DIRECTOR

Salvatore Sanders
 3081 Cushwa Hall
 (330) 941-7157
 sasanders@ysu.edu

PROGRAM DESCRIPTION

The Master of Respiratory Care program has been designed specifically for respiratory therapists who desire to enhance their career options in clinical and/or leadership roles within the respiratory care profession. The many resources available to respiratory care practitioners through key professional organizations are also integrated throughout the program. The core of the program builds on skills related to clinical research, grant writing, leadership development, and technology applications related to educational/administrative settings. Specialty tracks encourage the student to further develop their skill base in education, management, and advanced clinical applications.

ADMISSION REQUIREMENTS

All respiratory care applicants must meet the following requirements:

- Regular admission requires an unrecalculated cumulative undergraduate grade-point average of at least 3.0 (on a 4.0 scale)
- Current state license as a respiratory care practitioner
- National Board for Respiratory Care (NBRC) professional RRT (advanced practitioner) credential
- Membership in the American Association for Respiratory Care (AARC) in order to access data/projects that will be needed in academic coursework
- An (optional) personal interview and/or additional information as requested by the program's admission committee.
- Students not meeting regular admission requirements may be provisionally admitted. See the *Graduate Bulletin* under Provisional Admission.

Applicants must submit the following items to The Office of Admissions:

- Official transcripts from each college or institution of higher learning attended (other than YSU)
- An official report of Graduate Record Examination (General Test) scores completed within the past five years
- Three (3) letters of recommendation from individuals familiar with the applicant's academic or professional background
- A letter of intent stating one's professional goals and how graduate education in respiratory therapy will help fulfill said goals

DEGREE REQUIREMENTS

Required Core Courses (24 s.h. required)

RESC 6900	The Respiratory Care Profession	3 s.h.
RESC 6950	Respiratory Care Research	3 s.h.
HHS 6981	Grant Writing	2 s.h.
RESC 6906	Respiratory Care Seminar	3 s.h.
RESC 6908	Leadership Development in Respiratory Care	3 s.h.
AHLT 5807	Epidemiology for Health Care Practitioners	3 s.h.
RESC 6920	Technology Applications in HHS	3 s.h.
CJFS 6942	Research and Statistics	3 s.h.

RESC 6922	Special Topics in Respiratory Care	1-3 s.h.
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Education/Management/Therapeutic and Monitoring Tracks (12 s.h. required)
 (Students are required to take a minimum of 4 classes from 3 individual tracks)

Education

RESC 6910	Competency Assessment in Respiratory Care	3 s.h.
RESC 6915	Education and Accreditation in Respiratory Care	3 s.h.

Management

HHS 6922	Planning and Fiscal Management	3 s.h.
RESC 6930	Managing Respiratory Services	3 s.h.

Therapeutic and Monitoring Applications

RESC 6943	Advanced Monitoring/Therapeutics	3 s.h.
RESC 6926	Advanced Mechanical Ventilation	3 s.h.

Recommended Electives (3 s.h. required)

BIOL 5834/L	Advanced Systems Physiology I	4 s.h.
BIOL 5835/L	Advanced Systems Physiology II	4 s.h.
AHLT 5816	Environmental Regulations for Health Care	3 s.h.
HHS 6950	Professional Codes in Health Care	3 s.h.
HHS 6958	Health Service Issues	3 s.h.
AHLT 5840	Comparative Health Care	4 s.h.

Other electives may be approved by program director or faculty advisor.

Total Hours Required for Degree	39 s.h.
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MASTER OF SCIENCE IN APPLIED BEHAVIOR ANALYSIS

PROGRAM DIRECTOR

Jane Kestner
105 DeBartolo Hall
(330) 941-3408
jkeestner@ysu.edu

PROGRAM DESCRIPTION

The Master of Science in Applied Behavior Analysis at Youngstown State University trains students in the theoretical and philosophical foundations of Applied Behavior Analysis (ABA); research on basic and applied problems; and applied techniques in such areas as the treatment of institutionalized populations, work with the developmentally disabled, organizational behavior management, as well as a wide range of other applications. ABA is a scientific approach to behavior, and as such, strives to establish evidence-based practices for treatment and education. This approach is consistent with a scientist-practitioner model of graduate training. The purpose of the program will be to train students in behavior analysis through a balanced combination of in-class coursework and practical experience in community settings. As a result of this training, students will be qualified, and strongly encouraged, to become certified as Board Certified Behavior Analysts by the Behavior Analysis Certification Board (www.bacb.com).

The required coursework is intended to produce well-rounded professionals capable of becoming board certified and communicating with other professionals in the field, as well as those outside of the field (e.g. nurses, medical doctors, social workers, psychiatrists). Coursework in the program consists of 24 required semester hours in behavior analysis courses and one elective, as well as 12 credits of practical experience and (6) credits of thesis, for a total of 42 credits. As this is a cohort-based program (beginning each fall), no student not part of the cohort will be admitted to classes.

FACULTY RESEARCH INTERESTS

Michael Clayton, Ph.D., BDBA-D, Associate Professor

Complex human behavior (language, rule-governed behavior), organizational behavior management, self-management, behavioral safety, Acceptance and Commitment Therapy, community interventions, and philosophy of science

Stephen R. Flora, Ph.D., BCBA-D, ProfessorSelf-control; behavioral approaches to optimal performance in academics and athletics; learning; behavioral approaches to psychology difficulty; nutritional and drug effects on behavior; gambling

Rocio Rosales, Ph.D., BCBA-D, Assistant Professor

Verbal behavior; derived stimulus relations; second language acquisition; applications with typically developing children and children with autism; and staff training

ADMISSION REQUIREMENTS

Students must have a bachelor's degree in psychology or a related field from an accredited college or university. Admission requires an unrecalculated grade point average of at least 3.0 (on a 4.0 scale), as well as a satisfactory score on the Graduate Record Exam (GRE). A combined (GRE-V + GRE-Q) score over 297 is strongly recommended for admission to the program. Applicants must also submit 1) curriculum vita/resume, 2) three letters of recommendation from individuals familiar with the applicant's academic and professional background, and 3) a letter of intent stating one's professional goals and how graduate education in behavior analysis will help fulfill said goals. An (optional) personal interview and/or additional information may be requested by the program's admission committee. Students with minor deficiencies may be accepted with provisional admission at the discretion of the program's admission committee. See the Graduate Bulletin under Provisional Admission. All applicants must have taken PSYC 2617 (Research Methods and Statistics I) and PSYC 2618 (Research Methods and Statistics II), or equivalent before beginning the program.

Regular admission deadline – January 15

Late admission deadline – April 30 (consideration for remaining seats, if available)

DEGREE REQUIREMENTS

Students must complete a minimum of 42 semester hours: including eight content courses (24 s.h.), two years of practicum (12 s.h.), and six semester hours of thesis. The two years of practicum experience is critical for training qualified professionals who will succeed in the field and represent the program professionally. The first year will focus on functional analyses and behavioral assessments; the second year will require students to design and implement behavioral interventions. In addition to providing students with the supervised experience required for board certification, these experiences will allow students to put their classroom instruction into real-world practice. Practicum sites will be sufficiently varied to provide students with a significant breadth of experience. For example, if one year involves working with children, then the following year will find students working with senior citizens, or in a business setting, prison, or rehabilitation center. It is imperative that students gain experience with more than one client population during their practicum assignments. In this way, graduates will have a broad experience base, a deeper understanding of the underlying technology, as well as being more readily employable in a wide range of settings.

The master's thesis requires the students to complete a research project. This will involve surveying the relevant literature, designing a study, collecting data, writing up the results, and discussing the implications of your findings. Students will be strongly encouraged to present their findings at a research conference and develop a manuscript suitable for submission to the appropriate peer-reviewed scientific journal.

A grade of C or lower in a course used to satisfy graduation requirements must be retaken. Students must earn a B or better in all courses used to satisfy degree requirements.

REQUIRED COURSES

PSYC 6960	Fundamentals of Applied Behavior Analysis	3 s.h.
PSYC 6961	Foundations of Experimental Analysis of Behavior	3 s.h.
PSYC 6962	Behavior Therapy and Philosophy	3 s.h.
PSYC 6963	Behavioral Change Procedures and Ethics	3 s.h.
PSYC 6964	Observational Methods and Functional Assessment	3 s.h.
PSYC 6965	Behavioral Systems Analysis	3 s.h.
PSYC 6966	Research Methods in Applied Behavior Analysis	3 s.h.
PSYC 69xx	Elective	3 s.h.
PSYC 6968	Practicum I	6 s.h.
PSYC 6969	Practicum II	6 s.h.
PSYC 7060	Thesis	6 s.h.

Total hours required for degree: 42 s.h.

MASTER OF SCIENCE IN BIOLOGY

PROGRAM DIRECTOR

Mark D. Womble
4063 Ward Beecher Science Hall
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mdwomble@ysu.edu

PROGRAM DESCRIPTION

The Department of Biological Sciences offers a graduate program leading to the M.S. degree. This program provides both a strong foundation in fundamental principles and theories and an understanding of the advanced application of this information within the diverse disciplines of the life sciences. Students prepare, through coursework and faculty-guided original research, to pursue career paths in the professions, academia, research, business, and industry.

The Department of Biological Sciences is organized into the following divisions: (1) molecular biology, microbiology, and genetics; (2) physiology and anatomy; and (3) environmental biology. Students may pursue specific areas of specialization within these divisions, including ecology, microbiology, molecular biology, genetics, immunology, entomology, vertebrate physiology, neuroendocrinology, neurobiology, cell biology, or human anatomy.

The department is housed in Ward Beecher Hall. Specialized facilities include an analytical research laboratory housing modern analytical instruments, tissue culture laboratories, an animal facility, laboratories equipped for molecular and cellular research, and an extensive greenhouse facility. The department has exclusive use of two unique outdoor laboratories for field studies: the Youngstown State University Arboretum (a 115-acre reserve) and the Meander Reservoir (a 6,000-acre wildlife refuge and water impoundment), which collectively provide a valuable resource for environmental biology.

FACULTY RESEARCH INTERESTS

David K. Asch, Ph.D., Associate Professor
Gene regulation in eukaryotic organisms; carbon catabolite repression in *Neurospora crassa*

Michael T. Butcher, Ph.D., Assistant Professor
Comparative biomechanics: muscle structure and function with regard to locomotion and adaptive behaviors

Jonathan J. Caguiat, Ph.D., Associate Professor
Industrial microbiology and genetic and molecular biology techniques to characterize selenite and heavy metal resistant bacteria

Chester R. Cooper, Jr., Ph.D., Professor
Molecular biology and microbiology; morphogenesis and virulence of pathogenic fungi; identification of anti-fungal targets

Thomas Diggins, Ph.D., Associate Professor
Field-based community and ecosystem ecology of streams and riparian zones

Diana L. Fagan, Ph.D., Professor
Microbiology and immunology; inflammation and regulation of immune responses

Jill M. Tall Gifford, Ph.D., Associate Professor
Effects of pharmacological interventions on acute inflammatory and chronic neuropathic pain

Carl Johnston, Ph.D., Associate Professor
Microbiology; microbial and fungal ecology; biotechnology use of fungi in clean up of contaminated soils

Johanna Krontiris-Litowitz, Ph.D., Professor

Neurobiology and physiology; regulation and phenotypic expression of collagen in ventricular hypertrophy and fibrotic diseases

Robert E. Leipheimer, Ph.D., Professor

Reproductive neuroendocrinology; hormone-neurotransmitter interactions; regulation of reproductive behavior

Xiangjia (Jack) Min, Ph.D., Assistant Professor

Bioinformatics; gene and genome annotation and evolutionary analysis; knowledge database development for secretomes and alternatively spliced genes

Ian J. Renne, Ph.D., Assistant Professor

Plant community ecology; invasive species; community structure; allelopathic systems; avian ecology

Gary Walker, Ph.D., Professor

Cellular growth and movement in embryonic tissue; development of cell free system for the study of molecular processes underlying cell division

Mark Womble, Ph.D., Associate Professor

Cellular and molecular mechanisms of neurotransmitter actions; control of neuron activity

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements applicants must have completed at least 20 semester hours of undergraduate biology courses (or equivalents which could include biochemistry) with at least a 2.7 grade point average, plus one year of organic chemistry, one year of introductory physics, and one semester of statistics. Students with deficiencies in these areas should contact the Biology graduate director prior to applying for admission. The Graduate Record Examination (general test) is also required and students must obtain an acceptable score.

DEGREE REQUIREMENTS

Students may pursue the M.S. degree in biological sciences in one of two options. The thesis option is a research-intensive program designed to provide students a strong foundation in fundamental biological principles and theories through coursework and the completion of a faculty-guided research project (thesis). The nonthesis option allows students to gain an in-depth understanding of biology through coursework and the writing of a graduate research paper.

THESIS OPTION

Under this option, students work on a faculty-guided, original research project and gain practical experience in research techniques and data collection. It is designed for students who wish to pursue careers in academic or industrial laboratories or continue toward the Ph.D. degree.

A minimum of 36 semester hours of credit is required for the M.S. degree with thesis option. Students must submit an acceptable thesis proposal, pass an oral review of the proposal, submit an acceptable thesis reporting the results of a faculty-supervised research project, and pass an oral defense of the thesis. Students may repeat BIOL 6990 Master's Thesis Research to a maximum of six semester hours and must take Research Methods for Thesis (BIOL 6991) to a maximum of six semester hours. All students must take two semester hours of BIOL 6988 Seminar in Biological Sciences and one semester hour of Topics (BIOL 6996-7000). An additional 21 semester hours of course work is required, with no more than eight semester hours at the 5000 level. A minimum grade point average of 3.0 is required for graduation.

NONTHESIS OPTION

This option provides students with a strong understanding of biological theories and principles but does not require an original research project. It is designed for students whose future goal is a nonresearch-oriented career, such as professional school or pharmaceutical sales.

A minimum of 38 semester hours of credit is required for the M.S. degree with a nonthesis option. Students must take BIOL 6994 Research Methods for Nonthesis, which requires the submission of an acceptable graduate research paper and the oral review of this paper before their graduate committee. Students must also take two semester hours of BIOL 6998 Seminar in Biological Sciences and one semester hour of Topics (BIOL 6996-7000). An additional 33 semester hours of coursework must also be completed with no more than 12 semester hours at the 5000 level. Students must also pass a final examination administered by their graduate committee and achieve a minimum grade point average of 3.0 for graduation.

ADVISEMENT

Each student's course of study will be devised in consultation with the student's major advisor and will be approved by the student's graduate committee. The course of study will be based on the student's area of specialization, background, and career interests. Students must have their course schedules approved by their major advisor or the graduate director every semester.

MASTER OF SCIENCE IN CHEMISTRY

PROGRAM DIRECTOR

Sherri R. Lovelace-Cameron
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(330) 941-1997
srlovelacecameron@ysu.edu

PROGRAM DESCRIPTION

The Department of Chemistry offers a program of study leading to the M.S. degree with concentrations available in analytical, biochemical, inorganic, organic, and physical chemistry and in chemistry education. The program prepares the student for practice as a professional chemist by teaching academic fundamentals, creative and independent thinking through independent study and research, and leadership skills through interaction with undergraduate students as graduate teaching assistants. The program is also excellent preparation for further advanced study at other institutions, leading to the Ph.D. degree in chemistry or professional degrees in chemistry-related fields. The department has state-of-the-art instrumentation facilities and has readily available a wide range of instruments for student and faculty research including Transmission Electron Microscope, Scanning Electron Microscope, Focused Beam Ion system, 400 MHz NMR, FTIR, ICP-AES, AA, GC-MS, LC-MS, high resolution MS, several HPLCs, a powder and three single-crystal X-ray diffractometers, X-ray fluorescence, thermogravimetric analyzer, differential scanning calorimeter, gel permeation chromatograph, diode array spectrophotometers, and electrochemical systems.

FACULTY RESEARCH INTERESTS

G.K. Balendiran, Ph.D., Professor

Biomolecular structural biochemistry; structure and function of biological molecules and manipulation of their physiological properties with novel chemicals for health benefits

Larry S. Curtin, Ph.D., Associate Professor

Electroanalytical chemistry; synthetic inorganic chemistry; self-assembled monolayers; buckminsterfullerene; conducting polymers and charge transfer salts

Allen D. Hunter, Ph.D., Professor

Remote access to, and automation of, networks of scientific instrumentation (CyberTechnology & CyberPhysical Systems), including collaborative software and instrument development; synthesis and characterization of new nanoscale molecular materials; structural studies in the solid state (X-ray diffraction), including development of new multi-sensor instruments; chemical education research; collaborations with business and industry, including cybertechnology, metrology, and materials science and engineering

John A. Jackson, Ph.D., Associate Professor

Synthetic organic chemistry; organophosphorus chemistry; synthetic methodology; biologically active compounds; asymmetric synthesis

Friedrich W. Koknat, Ph.D., Professor

Transition metal cluster compounds

Brian D. Leskiw, Ph.D., Associate Professor

Mass spectrometric investigation of various compounds, including chemical vapor deposition precursors, substituted phenols, and trace analysis of pyrazines/haloanisoles

Sherri R. Lovelace-Cameron, Ph.D., Professor

Synthesis and electrochemical studies of transition metal organometallic complexes; metal organic frameworks; using service learning or cultural information in science courses to enhance student learning

Howard D. Mettee, Ph.D., Professor

Computational chemistry and modeling of active site energetics in enzyme catalysis; physical and chemical modification of hardwoods and charcoal to enhance water filtration characteristics; synthesis and evaluation of dimethacrylate-based resins as articular cartilage materials for degraded, weight-bearing joints

Daryl W. Mincey, Ph.D., Professor and Chair
Analysis of environmental materials

Peter Norris, Ph.D. Professor
Synthesis of novel heterocycles and carbohydrate mimics

Michael A. Serra, Ph.D., Associate Professor
Effects of free radicals on proteins

Josef B. Simeonsson, Ph.D., Associate Professor
Atomic and molecular spectrometry methods, analytical laser spectroscopy methods-fluorescence, ionization and Raman, environmental analysis, plasma spectroscopy, plasma diagnostics

Nina V. Stourman, Ph.D., Assistant Professor
Studies of bacterial functional genomics during response to stress; bacterial glutathione metabolism and the mechanism and biological role of bifunctional enzyme glutathionyl spermidine synthetase/amidase (GSS) and its products in *E. coli*.

Timothy R. Wagner, Ph.D., Professor
Synthesis of inorganic oxide and mixed-anion materials; structure characterizations using single crystal & powder X-ray diffraction; electron microscopy techniques

Ruigang Wang, Ph.D., Assistant Professor
Structure-property relationship in materials; atomic-level structural and chemical characterization of materials using electron microscopy techniques (In situ TEM, HRTEM, STEM, EELS, EDX etc); rare-earth oxides based catalysts; energy conversion and storage materials (fuel cell and battery etc.)

ADMISSION REQUIREMENTS

In addition to the minimum admission requirements of the School of Graduate Studies and Research, an applicant for admission to the M.S. degree program in the Department of Chemistry must present an undergraduate major in chemistry or the equivalent. Ordinarily, this entails the completion of at least a year's study in both organic and physical chemistry. In those cases where the undergraduate preparation is slightly deficient, the applicant may be admitted with provisional status with the approval of the chair of the Chemistry Department and the Graduate Dean. Students must achieve an acceptable score on the Graduate Record Examination general test (GRE) for admission to the program. The Chemistry or Biochemistry subject GRE test is also required of all students who do not have a B.S. or B.A. in chemistry or biochemistry.

DEGREE REQUIREMENTS

A minimum of 35 semester hours of credit is required for the M.S. degree. CHEM 6980, 6981, and 6982 are required of all students, with 6980 taken in the first year of study. Additionally, from nine to 15 semester hours of content courses in chemistry are required, depending on performance in placement exams. A minimum of 9 and a maximum of 12 semester hours of CHEM 6990 is also required for the degree. Teaching assistants must take CHEM 6975 in the first year and also register each semester for 6976, 6977, 6978, or 6979 (in addition to the 35 semester hour minimum) as assigned by the department chairperson. For graduation, the student must achieve a grade point average of 3.0 or higher in chemistry and must complete an acceptable research proposal, written thesis, and oral defense of the thesis.

ADVISEMENT

Entering students are advised by the program director. Within the first semester of full-time graduate studies, the student should select a thesis advisor, who will assist the student in planning the remainder of the program. Within the first year of full-time graduate studies, the student should select a thesis advisory committee in consultation with the thesis advisor. The committee, including the advisor, will meet periodically with the student to evaluate the progress of the research and to provide guidance.

MASTER OF SCIENCE IN CRIMINAL JUSTICE

PROGRAM DIRECTOR

John M. Hazy
2090 Cushman Hall
(330) 941-1789
jmhazy@ysu.edu

PROGRAM DESCRIPTION

The Master of Science in criminal justice at YSU provides professional education for criminal justice students. Criminal Justice faculty members are currently involved in research in police management theory, applied police management, correctional organization and treatment, crime statistics, and criminological theory. Students are encouraged to participate in this ongoing research.

Students considering a career in the field of criminal justice should be aware that many employers and agencies may require applicants to meet certain preemployment qualifications. These may include, but are not limited to, lack of a criminal record, satisfactory background checks, physical standards and conditions, and emotional stability.

FACULTY RESEARCH INTERESTS

John M. Hazy, Ph.D., Associate Professor and Graduate Coordinator
Methodology (research and statistics); teaching, community health; life course issues; bioterrorism preparedness

ADMISSION REQUIREMENTS

While an undergraduate degree in this discipline is not required for admission, a substantial background in the social sciences is preferred. Students lacking such preparation will, at the discretion of the department, be required to make up deficiencies. Each student must have completed the equivalent of CRJUS 1500 Introduction to Criminal Justice, a course in criminology and/or crime and delinquency, an introductory course in statistics, and a research methodology course. Students admitted with deficiencies in any of these requirements must remove them by completion of the second semester of graduate coursework.

REGULAR ADMISSION

To obtain regular admission, students must have an unrecalculated cumulative grade point average in undergraduate work of 3.0 or higher (on a 4.0 scale) or a satisfactory standardized test score (30th percentile or higher on the LSAT overall, GRE overall, or MAT group overall score) and undergraduate GPA of 2.7 or higher. If students meet these criteria but have undergraduate coursework deficiencies, they may be granted provisional admission.

PROVISIONAL ADMISSION

To obtain provisional admission, a student with an unrecalculated cumulative grade point average in undergraduate work of 2.5 to 2.69 must submit a satisfactory standardized test score (30th percentile or higher on the LSAT overall, GRE overall, or MAT group overall score). Students with an unrecalculated cumulative grade point average in undergraduate work below 2.5 will be considered for provisional admission if they (1) submit a satisfactory standardized test score and (2) had an undergraduate grade point average of 3.2 or higher (on a 4.0 scale) in the last 40 hours of coursework.

Upon admission to the criminal justice graduate program and selection of emphasis area, each student is guided by a committee of three faculty members. The student selects a graduate advisor in the area of concentration from the faculty of the Department of Criminal Justice and Forensic Sciences. This advisor serves as the chair of the student's graduate committee. The student and advisor select the other two members of the committee, both of whom must be members of the graduate faculty and one of whom may come from a department other than Criminal Justice. This committee will assist the student as appropriate with the planning of the program,

preparation and oral defense of the thesis, or the graduate paper and its defense in the case of the nonthesis option.

DEGREE REQUIREMENTS

The graduate program in criminal justice adheres to the position that the administration of criminal justice is a continuous, integrated process from prevention of crime through completion of all legal intervention. The program is designed to provide society with individuals who have both a substantial awareness of the overall system and the essential competencies required to perform professional roles within it. To achieve this objective, the program broadens the student's knowledge of the total criminal justice process and provides professional education so that its graduates may assume positions of leadership within the criminal justice system. The program also prepares students for doctoral studies in criminal justice or criminology.

Students seeking the M.S. degree in criminal justice may elect either a thesis or nonthesis option. The Department of Criminal Justice and Forensic Sciences will accept courses from other departments offering 5000- or 6000-level courses. Students should see their graduate advisor or graduate coordinator when selecting these courses.

THESIS OPTION

A minimum of 30 semester hours is required in this option, of which up to six hours may be thesis. No more than nine semester hours may be below the 6900 level.

NONTHESIS OPTION

A minimum of 35 semester hours is required of which no more than 12 semester hours may be below the 6900 level. The nonthesis option will require a major graduate research paper worth two credits and an oral exam (defense) upon its completion.

The graduate curriculum consists of two major components:

- Study in the general substantive areas of criminal justice, met by completing the graduate core of CJUS 6910, 6920, 6925, 6942, 6970, and 6980. Any departure from this requires prior approval of the student's committee and graduate coordinator.
- Study in courses outside the core

ACADEMY TRAINING AND LIFE EXPERIENCE

Opportunities are available through the Department of Criminal Justice and Forensic Sciences for students who do not have life experience or police academy training.

MASTER OF SCIENCE IN ENVIRONMENTAL STUDIES

PROGRAM DIRECTOR

Felicia Armstrong
2080 Moser Hall
(330) 941-1385
fparmstrong@ysu.edu

PROGRAM DESCRIPTION

The environmental studies program offers a multidisciplinary, interdepartmental graduate program leading to a Master of Science degree. The program office is housed in Moser Hall and is administered by the Department of Geological and Environmental Sciences (GES). This program is intended for individuals who have undergraduate degrees in environmental studies/science, other natural or social sciences, engineering, or health professions. It is designed to meet the needs of students and working professionals preparing for supervisory roles in environmental science (research and management), with emphasis on a risk-based approach to the solving of environmental problems. The curriculum requires students to broaden their knowledge with core courses in environmental studies, to deepen their expertise with elective courses in one of four disciplines, and to demonstrate their abilities to prepare a scholarly thesis. This degree will benefit students who are planning careers with regulatory agencies, industries seeking regulatory compliance or focusing on environmental management systems, research facilities, and consulting firms providing state-of-the-art assessment, management, and remediation.

FACULTY RESEARCH INTERESTS

Isam E. Amin, Ph.D., Associate Professor

Ground water contamination and remediation; characterization and remediation of Mahoning River banks; sediment transport in rivers and streams; intra-state water conflicts

Felicia Armstrong, Ph.D., Associate Professor

Environmental chemistry of soils; water quality; ecotoxicology; soil remediation

Raymond Emil Beiersdorfer, Ph.D., Professor

Environmental geochemistry

Jeffrey C. Dick, Ph.D., Professor

Groundwater contamination; water quality characterization/baseline investigations and petroleum geology

Alan M. Jacobs, Ph.D., Professor

Site characterization; health risk assessment; project management; groundwater contamination

ASSOCIATED FACULTY RESEARCH INTERESTS

Dawna L. Cerney, Ph.D., Associate Professor

Physical geography; mountain geography; biogeography; field methods; landscape level change and conservation

Thomas Diggins, Ph.D., Associate Professor of Biological Sciences

Ecosystem ecology; aquatic macroinvertebrate community structure; vegetative succession in riparian zones

Scott C. Martin, Ph.D., Professor of Civil and Environmental Engineering

Constructed wetlands; water quality modeling; Mahoning River assessment and remediation

Carl G. Johnston, Ph.D., Associate Professor of Biological Sciences

Environmental microbiology; microbial ecology; bioremediation using indigenous microbes and fungi

Douglas M. Price, Ph.D., Associate Professor of Civil and Environmental Engineering

Carbon dioxide capture; evaluation of point-source carbon dioxide footprint at manufacturing facilities; biofuel production by fermentation; membrane separation of gases

Ian J. Renne, Ph.D., Assistant Professor

Plant community ecology and invasive plant species; avian ecology; ecological and evolutionary dynamics of allelopathic systems

Bradley Shellito, Ph.D., Associate Professor of Geography

Applications of geospatial technology (Geographic Information Science, remote sensing, global positioning systems, and 3D Modeling)

Josef B. Simeonsson, Ph.D., Associate Professor of Chemistry

Analytical chemistry including atomic and molecular spectrometry methods; trace and ultratrace analysis; analytical laser spectroscopy methods-fluorescence; ionization and Raman; environmental analysis and clinical analysis; biogeochemical cycling of trace species; environmental remediation; biological trace element research

ADMISSION REQUIREMENTS

Graduates of regionally accredited baccalaureate programs in environmental studies, civil and environmental engineering, and physical and biological sciences may proceed with the Master of Science degree without deficiencies, in most cases. Graduates in social sciences and other programs may be required to complete coursework deficiencies in science and math. Students must also demonstrate that their undergraduate program comprised study equivalent to that currently required for a Bachelor of Science degree in environmental studies at YSU (as stated in the *Undergraduate Catalog* in the year of admission), especially with regard to mathematics and statistics, chemistry, and field and laboratory techniques. Math courses including calculus and science courses beyond general chemistry and biology are required for acceptance into the program. In those cases where the undergraduate preparation is deficient in three or fewer courses, students may be admitted with provisional status and must remove the deficiencies by satisfactorily completing appropriate undergraduate courses with a grade of B or better. Students with an undergraduate course deficiency greater than three courses will be asked to remove the deficiency as a postbaccalaureate, undergraduate student.

An unrecalculated cumulative undergraduate minimum grade point average of 2.7 (on a 4.0 scale) is required for admission without the Graduate Record Examination (general test). Students with grade point averages below 2.7 are required to complete the Graduate Record Examination prior to admission. The dean of the School of Graduate Studies and Research may consider provisional admission of a student with less than a 2.7 grade point average if a satisfactory Graduate Record Examination score is achieved.

DEGREE REQUIREMENTS

Each student admitted to the program will meet with the coordinator to choose initial coursework and meet graduate faculty. Each graduate student is required to select a thesis committee with the recommendation of his or her thesis advisor. The committee will consist of three to five faculty members in appropriate fields of expertise and one nonfaculty professional. The nonfaculty member must qualify for appointment as an adjunct graduate faculty member at YSU.

Upon admission to the program, the student's course of study will be devised through consultation with the student's thesis advisor and thesis committee. The course of study will be based on the student's area of specialization, background, and career interests. The core courses are science intensive, whereas the choices of electives emphasize one or more of the following disciplines:

- Chemistry and chemical engineering
- Biology and health
- Geology and environmental engineering

All students in the environmental studies graduate program must have their course schedules approved by their thesis advisor every semester.

The thesis shall advance knowledge in environmental science and be applicable to the solving of environmental problems. The thesis will include a formal document and a draft article in journal format suitable for publication submittal. Five prescribed core courses (15 semester hours), discipline-based electives (12 semester hours), and a thesis (six semester hours) are required for the Master of Science degree. Upon completion of coursework with a cumulative graduate grade point average of 3.0 or higher, students must pass the Environmental Professional

Intern (EPI) examination, which covers topics in environmental science with respect to chemistry, biology, regulations, analysis, and other environmental issues.

Prior to beginning thesis work, students are required to do the following:

- Choose a topic and submit an outline by the end of the first semester of full-time graduate work
- Submit a formal proposal by the end of the second semester of full-time graduate coursework

Each proposal must be reviewed and approved by all members of the thesis committee. As thesis work progresses, students must submit the following:

- Progress reports before the second year of full-time graduate coursework
- A draft thesis document by mid-term of the second semester of full-time graduate coursework
- A final draft and draft journal article by the end of the second year of full-time graduate coursework or when research is complete

Each document must be reviewed by the thesis advisor and submitted to the thesis committee two weeks before the thesis defense. The thesis defense will comprise an oral presentation before the thesis committee for final thesis approval.

Core Courses 15 s.h. required

These courses are designed to provide breadth in environmental science and understanding of environmental issues and regulations.

ENST 6900	Advanced Environmental Studies	3 s.h.
ENST 6901	Sources of Contamination	3 s.h.
ENST 6920	Environmental Compliance	3 s.h.
ENST 6921	Industry/Institutional Management for the Environmental Professional	3 s.h.
ENST 6931	Ecological Risk Assessment	3 s.h.

Thesis 6 s.h. required

ENST 6990	Thesis	1-6 s.h.
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Electives 12 s.h. required

These courses are designed to provide depth in disciplines appropriate for student's backgrounds and career goals and may be chosen from one or more of the following categories:

Chemistry and Chemical Engineering

CEEN 6920	Wetlands Engineering	3 s.h.
CHEM 5820	Industrial Pollution Control	3 s.h.
CHEM 5804	Chemical Instrumentation	4 s.h.
CHEM 5821	Intermediate Organic Chemistry	3 s.h.
CHEM 6921	Advanced Biochemistry I	3 s.h.
CHEM 6922	Advanced Biochemistry II	3 s.h.
CHEM 6941	Advanced Organic Chemistry I	3 s.h.
CHEM 6942	Advanced Organic Chemistry II	3 s.h.
CHEM 6951	Advanced Physical Chemistry I	3 s.h.
CHEM 6991	Special Topics in Renewable Energy Systems	3 s.h.
GEOL 5817	Environmental Geochemistry	3 s.h.

Biology and Health

AHLT 5807	Epidemiology	3 s.h.
BIOL 5804	Aquatic Biology	3 s.h.
BIOL 5806	Field Ecology	4 s.h.
BIOL 5811	Ornithology	3 s.h.

BIOL 5853	Biometry	3 s.h.
BIOL 5888	Environmental Biotechnology	4 s.h.
BIOL 6952	Experimental Design	3 s.h.
BIOL 6954	Advanced Ecology	3 s.h.
BIOL 6996	Topics in Environmental and Biological Interaction	1 s.h.
ENST 5830	Risk Assessment	3 s.h.

Geology and Environmental Engineering

CEEN 6977	Hydrology	3 s.h.
CEEN 6967	Biological Treatment Processes	3 s.h.
CEEN 6975	Physical and Chemical Treatment Processes	3 s.h.
ENGR 6925	Applied Environmental Management	3 s.h.
ENST 5800	Environmental Impact Assessment	3 s.h.
ENST 5810	Environmental Safety	1 s.h.
GEO 5815	Geology and the Environment II	3 s.h.
GEO 6910	Advanced Aquifer and Well Hydraulics	3 s.h.
GEO 6950	Selected Topics in Geology	1-3 s.h.

Other Areas of Interest

GEOG 5805	Remote Sensing 1	3 s.h.
GEOG 5806	Remote Sensing 2	3 s.h.
GEOG 5810	Geographic Information Science 1	3 s.h.
GEOG 5811	Geographic Information Science 2	3 s.h.
GEOG 5812	Global Positioning System and GIS	3 s.h.

No more than nine semester hours may be from the 5800-level (swing) courses. Additional background courses (undergraduate or graduate) may be required as prerequisites for some of the graduate courses. Credits earned for the graduate certificate in environmental studies may be applied to the Master of Science degree to the extent allowed by the School of Graduate Studies and Research.

MASTER OF SCIENCE IN MATHEMATICS

PROGRAM DIRECTOR

Jamal K. Tartir
516 Lincoln Building
(330) 941-1812
tartir@math.ysu.edu

PROGRAM DESCRIPTION

The Department of Mathematics and Statistics offers the M.S. degree in mathematics. Options for this degree include predoctoral studies, applied mathematics, computer science, secondary mathematics, statistics, and actuarial science. Graduate faculty members have a broad range of research interests in both pure and applied areas. The curriculum stresses theoretical as well as computational mathematics and is flexible enough to key a student's program to individual interests and abilities. Receiving a well-rounded education in mathematics, graduates can pursue a Ph.D., secure a position in government or industry, or further a teaching career. The department has extensive computing facilities that include microcomputers, workstations, mainframe, and access to supercomputers.

FACULTY RESEARCH INTERESTS

Guang-Hwa (Andy) Chang, Ph.D., Professor
Statistics and its applications in computer vision, economics, education, politics, and public health

Jacek Fabrykowski, Ph.D., Professor
Analytic number theory

Jozsi Jalics, Ph.D., Associate Professor
Mathematical and computational neuroscience; dynamical systems; mathematical biology; partial differential equations

Steven L. Kent, Ph.D., Professor
Mathematical physics; Yang-Mills theory

G. Jay Kerns, Ph.D., Associate Professor
Signed measures; infinite divisibility; exchangeability in probability and statistics; applications of stochastic processes

Anita C. O'Mellan, Ph.D., Professor
Graph theory; combinatorics; mathematics education

Zbigniew Piotrowski, Ph.D., Professor
General topology; real analysis; descriptive set theory; topological algebra

Nathan P. Ritchey, Ph.D., Professor and Chair
Operations research; applied mathematics; medical decision making; stochastic modeling

Stephen E. Rodabaugh, Ph.D., Professor
Foundations of topology and fuzzy logic: point-set, lattice-theoretic, and categorical methods

Thomas D. Smotzer, Ph.D., Professor
Real analysis; complex analysis; operator theory

Angela Spalsbury, Ph.D., Associate Professor
Functional analysis; operator theory; measure theory

Jamal K. Tartir, Ph.D., Associate Professor
Set-theoretic topology

Thomas P. Wakefield, Ph.D., Assistant Professor
Character theory; actuarial science

Eric J. Wingler, Ph.D., Professor
Real analysis; complex analysis; operator theory

George Yates, Ph.D., Associate Professor
Applied mathematics; partial differential equations; mathematical biology; nonlinear waves

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, students must also have the following:

- An unrecalculated undergraduate cumulative grade point average of at least 3.0 (on a 4.0 scale) in all undergraduate mathematics, statistics, and computer science courses
- A completed sequence in standard calculus comparable to MATH 1571 Calculus I, MATH 1572 Calculus II, and MATH 2673 Calculus III, including multivariable calculus
- Previous courses in discrete structures and linear algebra comparable to MATH 3715 Discrete Mathematics and MATH 3720 Linear Algebra and Matrix Theory
- Evidence of success in abstract mathematical reasoning

Students not satisfying all of the above may be admitted with provisional status subject to the approval of the graduate program director and the graduate dean.

DEGREE REQUIREMENTS

- A minimum of 33 semester hours of credit
- A cumulative grade point average of at least 3.0
- Students entering without a prior course in abstract algebra must include MATH 5821 in their program, to be taken in the earliest available semester, and students entering without a prior course in theoretical analysis must include MATH 5851 in their program, to be taken in the earliest available semester. These courses are not included in the 33-semester-hour minimum requirement.
- The student's combined undergraduate and graduate programs must include a mathematics core comprising the following courses or their equivalent:
 - MATH 5825 Advanced Linear Algebra
 - MATH 5852 (theoretical multivariable analysis)
 - MATH 6915 Mathematical Foundations or MATH 6980/6984 Topology I/Mathematical Logic I
 - MATH 6922 Advanced Abstract Algebra
 - Graduate level course in applied mathematical science
 - MATH 6996 Mathematical Project or MATH 6999 Thesis
- Satisfactory performance on written and oral examinations. The subject matter for these examinations should in part reflect both the core curriculum and the option selected (see Description of Options below) and must be approved by the Graduate Executive Committee. Additionally, the following distribution requirements apply:
 - Written exams on three courses
 - Oral exam on thesis, or oral exam on a project and two courses
 - At least half of the hours of the courses examined must be at the 6900 level
 - At least one course from MATH 5825, 5852, 6915, or 6920 must be examined
- Before completing 12 semester hours, the student should submit, through an advisor, the entire degree program for approval by the Graduate Executive Committee in the Department of Mathematics and Statistics. Subsequent revisions to this program must be approved by the Graduate Executive Committee. An abstract of the proposed thesis for six semester hours or project for three semester hours must be submitted for approval prior to registering for these hours.
- At least half the hours of the student's approved program must be at the 6900 level.

DESCRIPTION OF OPTIONS

There are several options, beyond the core, that a graduate student may choose. In the description of these options, depth means at least two courses in a sequence at the 5800/6900-level. In each option MATH 6995 may be used where appropriate up to a total of 12 semester hours.

Option I: Predoctoral Studies in Mathematics and Applied Mathematics

Coursework beyond the core should include MATH 6965, 6975, and 6980. The student should select at least one area of depth in consultation with an advisor so as to best prepare for future education. For a student in pure mathematics, examples of depth might include, but are not limited to, the sequences MATH 5822/6920, 6965/6966, 6975/6976, 6980/6981, 6984/6985. For a student in applied mathematics, examples of depth include, but are not limited to, MATH 5855/6955, 5861/6925, 6943/6944, 6943/6945, 6975/6976.

Option II: Statistics or Actuarial Science

Students choosing either statistics or actuarial science should plan their graduate program, in consultation with statistics faculty, to include at least 15 semester hours of statistics coursework. Coursework beyond the mathematics core should include a statistics core comprising STAT 6940, 6943, 6944, and 6948. Depth includes these courses: STAT 6945, 6946, 6949. Additional recommended courses include STAT 5840, 5846, 5847, 5848, 5849, and MATH 6965.

Students interested in actuarial science should have taken the statistics core (defined in the preceding paragraph) along with STAT 5802, 6904, 6905, or 6988. Additional recommended courses include ECON 6912, 6922, FIN 6900, 6921, and STAT 5800, 6910, 6945.

Option III: Applied Mathematics

As a traditional applied option, coursework beyond the mathematics core should include the first course in each of the following sequences: MATH 5845/6942, 5855/6955, and 5861/6925, as well as a second course for depth from at least one of these sequences. Courses in statistics and complex variables, including MATH 6975/6976, STAT 6943/6944, and 6945, are also highly recommended for students taking this option.

A student choosing this option may select graduate courses outside the Department of Mathematics and Statistics to complement a specific interest, subject to approval by the Graduate Executive Committee. Additionally, students choosing this option should have coursework in computer science either as part of their graduate program or prior to beginning the graduate program.

Option IV: Secondary/Community College Mathematics

Coursework beyond the core should include MATH 5828 or 5835, 5830 or 6930 and STAT 6940 or 6943, as well as one additional course for depth chosen from MATH 6920, 6928, 6933, 6937, 6938, or 6944, or some other course approved by the Graduate Executive Committee. Those students seeking certification should consult an advisor in the School of Education.

Option V: Computer Science

Students in this option should plan their graduate program in consultation with advisors in both the Department of Mathematics and Statistics and the Department of Computer Science and Information Systems. Coursework beyond the core should include MATH 5835 and 5861. Selections from MATH 6925, 6937, 6938, or 6984/6985 are also advised. At least 12 semester hours should be in computer science and include CSCI 6905, 6910, and 6915, unless the student had this material previously, in which case the depth requirement can be satisfied by including other 6900-level computer science courses. Students in this option may elect to do their project or thesis in computer science.

Option VI: Individualized Program of Study

Students with a career goal not addressed by the options above will select coursework beyond the core appropriate to this goal, including depth, in consultation with an advisor and subject to the approval of the Graduate Executive Committee.

MASTER OF SCIENCE IN EDUCATION—COUNSELING

PROGRAM DIRECTOR

Jake Protivnak
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jjprotivnak@ysu.edu

PROGRAM DESCRIPTION

The counseling program prepares individuals as professional counselors in the areas of clinical mental health, school, student affairs, college, and addiction counseling. Our program is designed to prepare graduates who have necessary knowledge, skills, and dispositions to best serve in mental health centers, schools, recovery centers, and colleges in the area. We have a nationally awarded and accredited Counseling Program. Our program is exemplified by the quality and diversity of classroom instruction, field experiences, program options, students, faculty and the outstanding reputation of graduates in the community. We have a 40+ year history and over 1500 master's degree graduates who have served the area as licensed professional clinical counselors, licensed/certified school counselors, licensed/certified chemical dependency counselors, student affairs professionals, professors, agency directors, and public servants. We have a strong connection with alumni, program supervisors, agencies and schools, and community leaders who support the profession of counseling in the Youngstown area.

The required core courses are those considered to represent basic knowledge and skills essential for professional counselors in all environments. The common CACREP core includes knowledge and skills in professional orientation and ethics, human growth and development, social and cultural diversity, helping relationships (e.g., counseling theory, counseling methods), career development, group work, assessment, research and program evaluation. In addition to the core courses, specialty studies must be completed before beginning an internship in the student's area of specialization.

The clinical mental health, college, and addiction counseling options are currently accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) under the 2001 standards for community counseling programs. The school counseling and student affairs options are accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). The clinical, college, and addiction counseling options are also recognized by the state of Ohio's Counselor, Social Worker, and Marriage and Family Therapist Board. The curriculum enables graduates to pursue the Ohio Professional Counselor licensure and the Professional Clinical Counselor licensure. The school counseling option is also accredited by the National Council for Accreditation of Teacher Education (NCATE) and is approved by the Ohio Department of Education.

The Counseling Program also maintains the Community Counseling Clinic that provides free or reduced cost counseling services to residents of the Youngstown area. All students in the clinical, school, addiction and college counseling options take one practicum course and counsel clients via the clinic during their first practicum experience.

Competitive scholarships and graduate assistantships are available for both part-time and full-time study in all options. Applications are available from the School of Graduate Studies and Research.

Addiction Counseling

The Addiction Counseling Program prepares students to work in a variety of community settings, including addiction/recovery centers, residential/community mental health centers, hospitals, employee assistance programs, and private practice. Students are taught to diagnose and treat mental and emotional disorders using a variety of interventions and methods. Students within this program focus on all areas of addiction including drug and alcohol, gambling, sexual, and other process addiction. The Addiction Counseling Program is currently accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) under the 2001 standards for Community Counseling programs as a Community Counseling program. The CACREP 2009 standards provide a new CACREP specialty in Addiction Counseling. Completion of this program will satisfy the educational portion of the requirements for Professional counselor and Professional

Clinical Counselor licensure by the Ohio Counselor, Social Worker, and Marriage and Family Therapist Board. In addition to the 63 semester hours of coursework, students complete experiential activities early in the program, a practicum, and a 600-hour internship in one of a variety of addiction settings in Northeast Ohio or Western Pennsylvania.

Clinical Mental Health Counseling

The Clinical Mental Health Counseling Program prepares students to work with children, adolescents, and/or adults and are employed in a variety of settings, including community mental health centers, hospitals, addiction/recovery centers, employee assistance programs, and private practices. Students are taught to diagnose and treat mental and emotional disorders using a variety of interventions and methods. Students are also taught ways to facilitate clients' growth and wellness, and how to help people live optimally as they move through developmental changes. The Clinical Mental Health Counseling program is currently accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) under the 2001 standards for Community Counseling programs as a Community Counseling program. The CACREP 2009 standards combine the Community Counseling and Mental Health Counseling standards into standards for Clinical Mental Health Counseling programs. A completed 600-hour internship in an appropriate community setting is required. Students interested in clinical mental health counseling complete a 63-semester-hour curriculum that is recognized by the state of Ohio's Counselor, Social Worker, and Marriage and Family Therapist Board. The curriculum enables graduates to pursue Ohio Professional Counselor licensure and Professional Clinical Counselor licensure. Students seeking counselor licensure in other states, such as Pennsylvania, have the responsibility to ensure that they meet the requirements of those particular states.

College Counseling

The College Counseling Program prepares students to work in a variety of college and university settings. In addition, students will have specific knowledge and skills to work with college bound students in other settings such as schools, clinical mental health and residential settings. Students are taught to diagnose and treat mental and emotional disorders using a variety of interventions and methods. Students are also taught ways to facilitate clients/students' growth and wellness, and how to help individuals live optimally as they move through developmental changes. Students within this program focus on having an understanding of administration and organization of higher education and student affairs, crisis intervention, and college student mental health assessment and interventions. The College Counseling program is currently accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) under the 2001 standards for Community Counseling programs as a Community Counseling program. Completion of this program will satisfy the educational portion of the requirements for Professional counselor and Professional Clinical Counselor licensure by the Ohio Counselor, Social Worker, and Marriage and Family Therapist Board. In addition to the 66 semester hours of coursework, students complete experiential activities early in the program, a practicum, and a 600-hour internship in one of a variety of college counseling settings in Northeast Ohio or Western Pennsylvania.

School Counseling

The School Counseling option prepares students to work in public or private K-12 education settings. The program is designed to help students with or without teaching backgrounds to support the academic, career, and personal/social development of all students within a school system. The program has an urban focus and seeks to prepare students who understand the impact of poverty and culture on disenfranchised populations. The School Counseling program is currently accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). The program meets the education requirements for school counselor licensure in the state of Ohio. Students seeking school counselor licensure who do not have teacher certification in Ohio must have completed an approved school counseling program with a one-year induction process. Students must also pass the school counseling specialty portion of the Praxis Exam administered by Educational Testing Service for the State of Ohio or any other state required standardized testing. In addition to the 54 semester hours of coursework, students complete experiential activities early in the program, a practicum, and a 600-hour internship in one of a variety of school counseling settings in Northeast Ohio or Western Pennsylvania. Students seeking school counselor licensure/certification in other states, such as Pennsylvania, have the responsibility to ensure that they meet the requirements of those particular states.

Student Affairs Leadership and Practice

The Student Affairs Leadership and Practice option prepares students for work in a variety of higher education settings, such as academic advising, student support services, residence life, programming and activities, judicial affairs, leadership programming, disability services, Greek life, and other areas within student affairs. Preparation is guided by an understanding of counseling, student affairs, college student development theory, legal issues, college student diversity, administrative and leadership components, assessment practices, and other aspects of higher education. Through the integration of multiple perspectives, students are prepared to enhance learning and development of college students. The Student Affairs Leadership and Practice program is currently accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). In addition to the 51 semester hours of coursework, students complete experiential activities early in the program, a practicum, and a 600-hour internship in one of a variety of higher education settings in Northeast Ohio or Western Pennsylvania. As a result of academic and practical learning experiences, students graduating from our program are well prepared for a career in student affairs.

FACULTY RESEARCH INTERESTS

Kyoung Mi Choi, Ph.D., Assistant Professor

College student development and student affairs; multi-cultural counseling (Third Culture kids); technology in counseling and internationalism of the profession of counseling

Carmella Hill, MsEd., Instructor

Multi-cultural issues in counseling; religious and spiritual-based issues in counseling; child and adolescent; crisis interventions and counselor development

Victoria E. Kress, Ph.D., Professor

Self-injurious behavior; complex psychological trauma; child abuse, domestic violence, rape/sexual trauma survivors; DSM; strength-based/creative counseling interventions

Don Martin, Ph.D., Professor

Academic and social skills among students of poverty; neuropsychology rehabilitation of stroke and CNS disorders; sports psychology with emphasis on DI athletes

Kenneth L. Miller, Ph.D., Professor

Measurement of cultural bias and discrimination; child abuse; technology use in clinical supervision; gender equity

Matthew J. Paylo, Ph.D., Assistant Professor

Child and adolescent treatment; qualitative research; residential and prison mental health; advocacy and social justice issues

Jake J. Protivnak, Ph.D., Associate Professor

School counseling; professional advocacy and development in counselor education; ethical issues; career development

ADMISSION REQUIREMENTS

Students from a variety of undergraduate majors (i.e. psychology, social work, education, communication, sociology, religion, philosophy, business, general studies, etc.) may pursue a master's degree in counseling. Although there are no specific course prerequisites for entry, faculty may recommend specific coursework for students without preparation in the social sciences. Undergraduate and/or graduate grade point average, a letter of intent, letters of recommendation, and a required interview are important factors in determining the admissibility of an applicant to the counseling degree program. Every applicant will be interviewed by members of the Counseling Admissions Committee and must meet the standards prescribed in the counseling program's admission policies. Since the Counseling admission standards exceed the minimum standards set by the School of Graduate Studies and Research, all applicants must review the admissions policies from the Counseling Program website before formally applying for admission.

Individuals who have a master's degree in counseling and are interested in taking coursework toward clinical or school counseling licensure endorsement and/or continuing education should apply to the counseling program. Students enrolled in any of the counseling programs must maintain a 3.0 grade point average throughout their program of study.

DEGREE REQUIREMENTS

Students are required to complete appropriate coursework for their program option, including satisfactory completion of the counseling comprehensive examination prior to beginning their field placements. Coursework related to specialized cognate areas (e.g., electives and/or thesis) serve to enhance each program option.

Twelve semester hours of internship are required. Since this requirement entails 20 hours per week at the internship site, students who are employed full time may need to arrange for accommodations with their employers to fulfill this requirement.

Addiction Counseling Program Curriculum 63 s.h.

COUN 5898	Orientation and Ethical Issues in Community Counseling	3 s.h.
COUN 6900	Counseling Methods and Practice	3 s.h.
COUN 6902	Theory and Foundation of Addictions Counseling	3 s.h.
COUN 6903	Addictions Counseling: Treatment and Interventions	3 s.h.
COUN 6910	Human Development and Family Systems Counseling	3 s.h.
COUN 6962	Counseling Theory	3 s.h.
COUN 6964	Appraisal Techniques in Counseling	3 s.h.
COUN 6968	Research in Counseling	3 s.h.
COUN 6972	Career Counseling	3 s.h.
COUN 6973	Group Counseling Theory and Practice	2 s.h.
COUN 6973L	Group Counseling Lab	1 s.h.
COUN 6976	Social and Cultural Issues in Counseling	3 s.h.
COUN 6980	Diagnosis of Mental Disorders	3 s.h.
COUN 7001	Counseling Practicum I	3 s.h.
COUN 7002	Clinical Mental Health Counseling Practicum II	3 s.h.
COUN 7031	Clinical Psychopathology and Treatment	3 s.h.
COUN 7034	Advanced Evaluation of Mental and Emotional Status	3 s.h.
COUN 7037	Counseling and Psychopharmacological Treatments of Mental and Emotional Disorders	3 s.h.
COUN 7041	Case Conceptualization, Treatment Planning, and Clinical Supervision	3 s.h.

Internship (12 s.h. total required)

COUN 7010	Clinical Mental Health Counseling Internship	12 s.h.
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Comprehensive examination prerequisites: COUN 5821G, 6900, 6910, 6962, 6964, 6968, 6972, 6973, 6973L, 6976, 6980

NOTE: Internship placement involves a minimum of 600 clock hours completed over two semesters. COUN 7002 is to be completed the semester immediately prior to beginning the internship. Students are to apply for their field placement for the fall or summer semesters no later than the fourth week of the spring semester. (Application forms are online and should be submitted to the internship coordinator.) If a student would like to begin his or her field placement in the spring semester, the student should apply no later than the fourth week of the fall semester. Students who fail to submit their field placement application form by the deadline will not be permitted to complete their field placement during the specified semester. For further information refer to the appropriate *Fieldwork Handbook*.

Not all courses are offered every semester. It is the student's responsibility to carefully plan his or her program of study in order to meet all prerequisite course and graduation requirements.

Students must take 5898 within the first 3 semesters in which they are enrolled.

Clinical Mental Health Counseling Program Curriculum 63 s.h.

COUN 5898	Orientation and Ethical Issues in Professional Counseling	3 s.h.
COUN 6900	Counseling Methods and Practice	3 s.h.
COUN 6902	Theory and Foundation of Addiction Counseling <i>or</i>	
COUN 6903	Addiction Counseling: Treatment and Interventions	3 s.h.
COUN 6910	Human Development and Family Systems Counseling	3 s.h.
COUN 6962	Counseling Theory	3 s.h.
COUN 6964	Appraisal Techniques in Counseling	3 s.h.
COUN 6968	Research in Counseling	3 s.h.
COUN 6972	Career Counseling	3 s.h.
COUN 6973	Group Counseling Theory and Practice	2 s.h.
COUN 6973L	Group Counseling Lab	1 s.h.
COUN 6976	Social and Cultural Issues in Counseling	3 s.h.
COUN 6980	Diagnosis of Mental Disorders	3 s.h.
COUN 7001	Counseling Practicum I	3 s.h.
COUN 7002	Clinical Mental Health Counseling Practicum II	3 s.h.
COUN 7031	Clinical Psychopathology and Treatment	3 s.h.
COUN 7034	Advanced Evaluation of Mental and Emotional Status	3 s.h.
COUN 7037	Psychopharmacological Treatment of Mental and Emotional Disorders	3 s.h.
COUN 7041	Case Conceptualization, Treatment Planning & Clinical Supervision	3 s.h.

Internship (12 s.h. total required)

COUN 7010	Clinical Mental Health Counseling Internship	12 s.h.
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Comprehensive examination prerequisites: COUN 5898, 6900, 6910, 6962, 6964, 6968, 6972, 6973, 6973L, 6976, 6980.

NOTE: Internship placement involves a minimum of 600 clock hours completed over two semesters. COUN 7002 is to be completed the semester immediately prior to beginning the internship. Students are to apply for their field placement for the fall or summer semesters no later than the fourth week of the spring semester. (Application forms are online and should be submitted to the internship coordinator.) If a student would like to begin his or her field placement in the spring semester, the student should apply no later than the fourth week of the fall semester. Students who fail to submit their field placement application form by the deadline will not be permitted to complete their field placement during the specified semester. For further information refer to the appropriate *Fieldwork Handbook*.

Not all courses are offered every semester. It is the student's responsibility to carefully plan his or her program of study in order to meet all prerequisite course and graduation requirements.

Students must take COUN 5898 within the first three semesters in which they are enrolled.

College Counseling Program Curriculum 66 s.h.

COUN 5898	Orientation and Ethical Issues in Community Counseling	3 s.h.
COUN 6900	Counseling Methods and Practice	3 s.h.
COUN 6902	Theory and Foundation of Addiction Counseling <i>or</i>	
COUN 6903	Addiction Counseling: Treatment and Interventions	3 s.h.
COUN 6910	Human Development & Family Systems Counseling	3 s.h.
COUN 6930	College Counseling & Student Mental Health	3 s.h.
COUN 6962	Counseling Theory	3 s.h.
COUN 6964	Appraisal Techniques in Counseling	3 s.h.
COUN 6968	Research in Counseling	3 s.h.
COUN 6972	Career Counseling	3 s.h.
COUN 6973	Group Counseling Theory and Practice	2 s.h.
COUN 6973L	Group Counseling Lab	1 s.h.
COUN 6976	Social and Cultural Issues in Counseling	3 s.h.
COUN 6980	Diagnosis of Mental Disorders	3 s.h.

COUN 7001	Counseling Practicum I	3 s.h.
COUN 7002	Clinical Mental Health Counseling Practicum II	3 s.h.
COUN 7026	Foundations and Functions of Student Affairs	3 s.h.
COUN 7031	Clinical Psychopathology and Treatment	3 s.h.
COUN 7034	Advanced Evaluation of Mental & Emotional Status	3 s.h.
COUN 7041	Case Conceptualization, Treatment Planning & Clinical Supervision	3 s.h.

Internship (12 s.h. total required)

COUN 7010	Clinical Mental Health Counseling Internship	12 s.h.
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Comprehensive examination prerequisites: COUN 5898, 6900, 6910, 6962, 6964, 6968, 6972, 6973, 6973L, 6976, 6980.

NOTE: Internship placement involves a minimum of 600 clock hours completed over two semesters. COUN 7002 is to be completed the semester immediately prior to beginning the internship. Students are to apply for their field placement for the fall or summer semesters no later than the fourth week of the spring semester. (Application forms are online and should be submitted to the internship coordinator.) If a student would like to begin his or her field placement in the spring semester, the student should apply no later than the fourth week of the fall semester. Students who fail to submit their field placement application form by the deadline will not be permitted to complete their field placement during the specified semester. For further information refer to the appropriate *Fieldwork Handbook*.

Not all courses are offered every semester. It is the student's responsibility to carefully plan his or her program of study in order to meet all prerequisite course and graduation requirements.

Students must take 5898 within the first 3 semesters in which they are enrolled.

School Counseling Program Curriculum 54 s.h.

COUN 6900	Counseling Methods and Practice	3 s.h.
COUN 6910	Human Development and Family Systems Counseling	3 s.h.
COUN 6961	Orientation and Ethical Issues in School Counseling	3 s.h.
COUN 6962	Counseling Theory	3 s.h.
COUN 6964	Appraisal Techniques in Counseling	3 s.h.
COUN 6968	Research in Counseling	3 s.h.
COUN 6972	Career Counseling	3 s.h.
COUN 6973	Group Counseling: Theory and Practice	2 s.h.
COUN 6973L	Group Counseling Lab	1 s.h.
COUN 6976	Social and Cultural Issues in Counseling	3 s.h.
COUN 7001	Counseling Practicum I	3 s.h.
COUN 7003	Counseling Children and Adolescents	3 s.h.
COUN 7007	School Counseling Practicum II	3 s.h.
COUN 7013A	Diagnosis and Treatment of Children and Adolescents	3 s.h.
COUN 7014D	School Counseling Program Development	3 s.h.

Internship (12 s.h. total required)

COUN 7010	School Counseling Internship	12 s.h.
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Comprehensive examination prerequisites: COUN 6900, 6910, 6961, 6962, 6964, 6968, 6972, 6973, 6973L, 6976.

Internship placement involves a minimum of 600 clock hours completed over two semesters. COUN 7007 is to be completed in the fall semester immediately prior to beginning internship. Students are to apply for their field placement for the fall or summer semesters no later than the fourth week of the spring semester. (Application forms are online and should be submitted to the internship coordinator.) Students who fail to submit their field placement application form by the deadline will not be permitted to complete their field placement during the specified semester. For further information refer to the appropriate *Fieldwork Handbook*.

Internships must be completed in approved educational settings. In order to provide a comprehensive

experience, Practicum II/Internship are only offered beginning in the fall semester of the final year in the program. This experience is comprised of 750 supervised hours in an approved setting in an August through June format.

Not all school counseling courses are offered every semester. Students are responsible for carefully planning their programs of study in order to meet all prerequisite course and graduate requirements.

Students are required to purchase a Task Stream account to complete the critical tasks for each course which is essential for CACREP and NCATE.

Student Affairs Leadership and Practice **51 s.h.**

COUN 6900	Counseling Methods and Practice	3 s.h.
COUN 6930	College Counseling and Student Mental Health	3 s.h.
COUN 6962	Counseling Theory	3 s.h.
COUN 6968	Research in Counseling	3 s.h.
COUN 6972	Career Counseling	3 s.h.
COUN 6973	Group Counseling Theory and Practice	2 s.h.
COUN 6973L	Group Counseling Lab	1 s.h.
COUN 6976	Social and Cultural Issues in Counseling	3 s.h.
COUN 7021	Legal and Ethical Issues in Higher Education	3 s.h.
COUN 7023	Life Span and College Student Development	3 s.h.
COUN 7026	Orientation and Functions of Student Affairs	3 s.h.
COUN 7044	Leadership and Administration in Student Affairs	3 s.h.
COUN 7046	Assessment in Student Affairs Practice	3 s.h.
COUN 7004	Practicum – Student Affairs	3 s.h.

Internship (12 s.h. total required)

COUN 7005	Internship in Student Affairs	12 s.h.
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Comprehensive examination prerequisites: 7021, 7023, 7044

Students must take COUN 6900, 6962, 7023 and 7026 within the first three semesters of their enrollment.

Internship placement involves a minimum of 600 clock hours completed over two semesters. Students are to apply for their field placement for the fall or summer semesters no later than the fourth week of the spring semester. (Application forms are online and should be submitted to the internship coordinator.) If a student would like to begin his or her field placement in the spring semester, the student should apply no later than the fourth week of the fall semester. Students who fail to submit their field placement application form by the deadline will not be permitted to complete their field placement during the specified semester. Students are responsible for carefully planning their programs of study in order to meet all prerequisite course and graduation requirements.

MASTER OF SCIENCE IN EDUCATION—EDUCATIONAL ADMINISTRATION

DEPARTMENT CHAIR

Richard McEwing
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PROGRAM COORDINATOR

Charles Vergon
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PROGRAM DESCRIPTION

The Department of Educational Foundations, Research, Technology, and Leadership prepares reflective administrative practitioners who are capable of providing effective management and instructional leadership in public and nonpublic school settings (also see the Doctor of Education in Educational Leadership section of this catalog). Post-master's programs are also provided, which lead to Ohio administrative licensure as elementary principal for ages three through 12; middle school principal for ages eight through 14; secondary principal for ages ten through 21; administrative specialist in curriculum, instruction, and professional development; administrative specialist in pupil services administration; and superintendent. In addition, the department offers programs for Pennsylvania administrative certification as principal for grades K–12 and the letter of eligibility for superintendent.

FACULTY RESEARCH INTERESTS

Robert J. Beebe, Ed.D., Professor
Administrative theory; human resources administration; leadership development

Jane A. Beese, Ed.D., Assistant Professor
Organizational leadership; economics of education; program evaluation

Karen H. Larwin, Ph.D., Assistant Professor
Assessment; research design and methodology; statistics

Charles Vergon, J.D., Professor
Education law; policy development; educational change

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, the Department of Educational Foundations, Research, Technology, and Leadership requires that master's applicants have the following:

- Qualification for a teaching certificate or license (Ohio provisional or equivalent) if enrolled in a program leading to additional certification, licensure, validation, or endorsement. Students without a teaching certificate or license may be admitted on an individual basis to graduate programs leading to certification or licensure in certain areas.
- A satisfactory score on the aptitude portion of the Graduate Record Examination or on the Miller Analogies Test if the student's unrecalculated undergraduate grade point average is below 2.7
- Three professional recommendations
- Professional résumé
- Personal interview upon departmental request

DEGREE REQUIREMENTS

A minimum of 33 semester hours is required for the degree. In addition to the following educational administration and foundations courses, students must successfully complete a comprehensive examination covering the educational administration courses listed under Special Notes.

Master's Degree 33 s.h.

Introduction to School Leadership and Educational Organizations 15 s.h.

This program module introduces students to the realities of school leadership, providing them a broader vision and deeper understanding of educational policy and organizations and the role of leadership in promoting effective instruction. It begins to transform their perspectives from that of a classroom teacher to one of an administrator with broader perspectives and responsibilities.

EDAD 6915	Learning, Teaching, and Instructional Leadership	3 s.h.
EDAD 6931	Leadership in Educational Organizations	3 s.h.
EDAD 6933	Educational Policy, Politics, and Change	3 s.h.
FOUN 6901	Philosophical Analysis of Education <i>or</i>	
FOUN 6902	Sociological Bases of Education <i>or</i>	
FOUN 6905	Educational Challenges in Historical Perspective	3 s.h.
FOUN 6904	Introduction to Educational Research	3 s.h.

Leadership and Management Issues at the School Site 18 s.h.

This program module continues the development of leadership knowledge and skills specific to building level operations, focusing on the role of the principal in relation to staff and the community, and how legal and fiscal considerations shape and influence administrative decision making and the exercise of leadership.

EDAD 6947	School Building Leadership: Models and Processes	3 s.h.
EDAD 6949	Legal and Ethical Issues in Public Administration	3 s.h.
EDAD 6952	School Finance, Resource Planning, and Management	3 s.h.
EDAD 6954	Marketing and Community Relations	3 s.h.
EDAD 6955	Professional Development and Human Resources	3 s.h.
EDAD 6975	Introduction to Administration Clinical Experience	3 s.h.

Special Notes

Before granting the degree, candidates must successfully complete a comprehensive examination covering the following 15 semester hours of educational administration courses: EDAD 6931, 6949, 6952, 6954, and 6955.

This program provides no license in administrative areas. Upon completion of the basic M.S. in Education in Educational Administration degree or the equivalent thereof as evaluated by the Department, students have the opportunity to enroll in specific licensure and certification fields.*

All transfer students, including those seeking a master's degree and those who hold a master's degree, will be evaluated using the criteria listed previously. Students who have been evaluated through direct contact with the Ohio State Department of Education should be aware that they must meet the criteria established by the Department of Educational Foundations, Research, Technology, and Leadership at YSU before the M.S. in Education in Educational Administration will be granted.

POST-MASTER'S LICENSURE REQUIREMENTS

Candidates for Ohio administrative license must have completed the 33 semester hours for the M.S. in

* Completion of the minimum number of semester hours indicated for each program and of any other Ohio State Department of Education requirements must be achieved before recommendation for any license. Those seeking initial administrative licensure in the State of Ohio must score at least 149 on the Praxis II Test in Educational Leadership: Administration and Supervision (#0411).

Education degree in Educational Administration as required by YSU or its equivalent as evaluated by the Department of Educational Foundations, Research, Technology, and Leadership.

PRINCIPAL LICENSE (OHIO)

Elementary Principal License Ages 3-12	14 s.h.**
Middle School Principal License Ages 8-14	14 s.h.
Secondary Principal License Ages 10-21	14 s.h.**

This program module emphasizes the leader’s role in promoting collaboration and continuous school improvement across several major components of the school program from curriculum and instruction to student support services and the role technology can play in program assessment, development, implementation, and evaluation.

EDAD 7014	Systematic Use of Information for Continuous School Improvement	3 s.h.
EDAD 7018	School Discipline and Student Support Services: Policies, Programs, and Prevention Strategies	2 s.h.
TCED 6936	Fundamentals of Curriculum	3 s.h.
SPEED 7077	Leadership in Gifted and Disabilities Education	3 s.h.
Choose one clinical experience course as appropriate to the licensure level being sought:		
EDAD 7022E	Clinical Experience: Elementary Principalship <i>or</i>	
EDAD 7022M	Clinical Experience: The Middle School Principalship <i>or</i>	
EDAD 7022S	Clinical Experience: Secondary Principalship	3 s.h.

Candidates must qualify for/hold a valid professional teacher certificate/license at the same level as the administrative license being sought; have two years of successful teaching under a professional teaching certificate/license at the same level as the administrative license being sought. In addition, candidates must have an official score report indicating a score of at least 149 on the Praxis II Examination Specialty Area Test in Educational Leadership: Administration and Supervision (test #0411 applies only to persons seeking initial administrative licensure in Ohio).

ADMINISTRATIVE SPECIALIST LICENSE

Administrative Specialist License in Curriculum, Instruction, and Professional Development

Master’s degree in educational administration, plus coursework as follows:

EDAD 7018	School Discipline and Student Support Services: Policies, Programs, and Prevention Strategies	2 s.h.
EDAD 7040	Clinical Practice for Administrative Specialist	3 s.h.
TCED 6922	Principles of Instruction	3 s.h.
TCED 6934	Assessment in Education	3 s.h.
TCED 6936	Fundamentals of Curriculum	3 s.h.
TCED 6946	Supervision of Instruction	3 s.h.

Or

Master’s degree in curriculum at YSU, plus coursework as follows:

EDAD 6915	Learning, Teaching, and Instructional Leadership	3 s.h.
EDAD 6931	Leadership in Educational Organizations	3 s.h.
EDAD 6933	Educational Policy, Politics, and Change	3 s.h.
EDAD 6947	School Building Leadership: Models and Processes	3 s.h.
EDAD 6949	Legal and Ethical Issues in Public Administration	3 s.h.

** Individuals qualifying for licensure at the Elementary or Secondary level are also issued licensure at the Middle School level.

EDAD 6952	School Finance, Resource Planning, and Management	3 s.h.
EDAD 6954	Marketing and Community Relations	3 s.h.
EDAD 6955	Professional Development and Human Resources	3 s.h.
EDAD 6975	Introduction to Administration Clinical Experience	3 s.h.
EDAD 7018	School Discipline and Student Support Services: Policies, Programs, and Prevention Strategies	2 s.h.
FOUN 6904	Introduction to Educational Research	3 s.h.
	Choose one:	
FOUN 6901	Philosophical Analysis of Education <i>or</i>	
FOUN 6902	Sociological Bases of Education <i>or</i>	
FOUN 6905	Educational Challenges in Historical Perspective	3 s.h.

Candidates must qualify for/hold a valid professional teacher certificate/license and have two years of successful teaching under a professional teaching certificate/license. In addition, candidates must have an official score report indicating a score of at least 149 on the Praxis II Examination Specialty Area Test in Educational Leadership: Administration and Supervision (test #0411). (This test requirement applies only to persons seeking initial administrative licensure in Ohio.)

Administrative Specialist License in Pupil Services Administration

Master's degree in educational administration, plus coursework as follows:

SPED 5858	Intervention Concepts and Strategies in Early Childhood Special Education	2 s.h.
SPED 5871	Characteristics and Needs of Gifted Children	3 s.h.
SPED 6900	Issues, Trends & Foundations in Special Education	3 s.h.
SPED 6981	Seminar: Current Issues in Special Education	3 s.h.
SPED 6982	Educational Assessment in Gifted and Special Education	3 s.h.
SPED 6986	Severe Behavior Disabilities	3 s.h.
SPED 7077	Leadership in Gifted and Disabilities Education	3 s.h.
SPED 7040	Clinical Practice for the Administrative Specialist	3 s.h.

Or

Master's degree in special education at YSU, plus coursework as follows:

EDAD 6915	Learning, Teaching, and Instructional Leadership	3 s.h.
EDAD 6931	Leadership in Educational Organizations	3 s.h.
EDAD 6933	Educational Policy, Politics, and Change	3 s.h.
EDAD 6947	School Building Leadership: Models and Processes	3 s.h.
EDAD 6949	Legal and Ethical Issues in Public Administration	3 s.h.
EDAD 6952	School Finance, Resource Planning, and Management	3 s.h.
EDAD 6954	Marketing and Community Relations	3 s.h.
EDAD 6955	Professional Development and Human Resources	3 s.h.
EDAD 6975	Introduction to Administration Clinical Experience	3 s.h.
EDAD 7018	School Discipline and Student Support Services: Policies, Programs, and Prevention Strategies	2 s.h.
EDAD 7040	Clinical Practice for the Administrative Specialist	3 s.h.
FOUN 6904	Introduction to Educational Research	3 s.h.
	Choose one:	
FOUN 6901	Philosophical Analysis of Education <i>or</i>	
FOUN 6902	Sociological Bases of Education <i>or</i>	
FOUN 6905	Educational Challenges in Historical Perspective	3 s.h.

Candidates for the Pupil Services Administrative Specialist License must have a master's degree, complete an approved program for this license, have two years of experience under a pupil services license, and successfully complete an examination prescribed by the state board of education, earning a minimum score of 149 on Praxis II Examination Specialty Area Test for Educational Leadership: Administration and Supervision (test #0411).

SUPERINTENDENT LICENSE (OHIO)**15 s.H.**

Candidates must hold an administrative certificate or license issued upon the recommendation of YSU or the equivalent thereof as evaluated by the Department of Educational Foundations, Research, Technology, and Leadership at YSU, complete the following course sequence, and meet any other Ohio State Department of Education requirements.

This model shifts the leadership focus from the micro (school site) to the macro (school systems) level and familiarizes prospective superintendents with systems knowledge and perspective on leadership in areas from educational governance to human resource administration to technology and facilities.

EDAD 7024	Collective Bargaining and System Issues in Human Resources Administration	3 s.h.
EDAD 7025	Educational Governance: Advanced Law and Policy Seminar	3 s.h.
EDAD 7026	Technology and Facilities Issues for Learning Organizations	3 s.h.
EDAD 7035	The Superintendency and Evolving Ways of Looking at Leadership	3 s.h.
EDAD 7050	Clinical Experience: Superintendency	3 s.h.

PRINCIPAL CERTIFICATE K-12 (PENNSYLVANIA)

Candidates must hold a Master's degree from an accredited program. The professional education program provides evidence that School Principal certification candidates demonstrate knowledge of and competence in working in the elementary and secondary public school settings, including completion of the 33 semester hours listed below, many of which are included in the typical master's degree in educational administration. They must also provide an official score report indicating a score of at least 143 on Praxis II Specialty Test #0411 in Educational Leadership: Administration and Supervision; or a 163 score on Praxis Specialty Test #6011 in School Leadership Licensure Assessment (SLLA); and satisfy any other Pennsylvania Department of Education Requirements, plus:

Completion of 33 s.h. below (to extent not already taken as part of a master's degree program):

EDAD 6915	Learning, Teaching, and Instructional Leadership	3 s.h.
EDAD 6931	Leadership in Educational Organizations: Theory to Best Practice	3 s.h.
EDAD 6947	School Building Leadership: Models and Processes	3 s.h.
EDAD 6949	Legal and Ethical Issues in Public Administration	3 s.h.
EDAD 6952	School Finance, Resource Planning, and Management	3 s.h.
EDAD 6954	Marketing and Community Relationships	3 s.h.
EDAD 6955	Professional Development and Human Resources	3 s.h.
EDAD 7014	Systematic Use of Information for Continuous School Improvement	3 s.h.
TCED 6936	Fundamentals of Curriculum	3 s.h.
SPED 7077	Leadership in Gifted and Disabilities Education	3 s.h.
Choose one clinical experience course as appropriate to the licensure level being sought:		
EDAD 7022E	Clinical Experience: Elementary Principalship <i>or</i>	
EDAD 7022S	Clinical Experience: Secondary Principalship	3 s.h.

The professional education program provides evidence that each certification candidate demonstrates knowledge and competencies that foster professionalism and ethical practices in school/community settings including:

- Professional organizations, professional literature, resources and advocacy groups.
- Integrity and ethical behavior, professional conduct as stated in *Pennsylvania's Code of Professional Practice and Conduct for Educators*; and local, state, and federal laws and regulations.
- Communicating effectively (orally and in writing) with students, colleagues, faculty, families, paraprofessionals, related service personnel, outside agencies and the community.
- Recognizing the professional responsibilities of administrators' and teachers' roles as collaborators, team members, advocates, and service coordinators.

CERTIFICATION FOR THE PENNSYLVANIA SUPERINTENDENT'S LETTER OF ELIGIBILITY

Candidates must hold a Master's degree from an accredited program; have six years of professional service in schools, three of which shall have been in supervisory or administrative positions; have an official score report indicating a score of at least 160 on the School Superintendent Assessment Exam #6021; and all other Department of Education, State of Pennsylvania requirements must be met; *plus* completion of the 57 semester hours listed below, many of which may already have been completed as part of the candidate's master's degree in educational administration or principalship certification program.

EDAD 6915	Learning, Teaching, and Instructional Leadership	3 s.h.
EDAD 6947	School Building Leadership: Models and Processes	3 s.h.
EDAD 6949	Legal and Ethical Issues in Public Administration	3 s.h.
EDAD 6952	School Finance, Resource Planning, and Management	3 s.h.
EDAD 6954	Marketing and Community Relationships	3 s.h.
EDAD 6955	Professional Development and Human Resources	3 s.h.
EDAD 7014	System use of Information for Continuous School Improvement	3 s.h.
EDAD 7024	Collective Bargaining and systems Issues in Human Resources	3 s.h.
EDAD 7025	Educational Governance: Advanced Law and Policy Seminar	3 s.h.
EDAD 7026	Technology and Facilities for Learning Organizations	3 s.h.
EDAD 7035	The Superintendency and Evolving Ways of Looking at Leadership	3 s.h.
EDAD 7050	Clinical Experience: The Superintendency	3 s.h.
FOUN 6901	Philosophical Analysis of Education	3 s.h.
FOUN 6902	Sociological Bases of Education	3 s.h.
FOUN 6904	Introduction to Educational Research	3 s.h.
FOUN 6905	Educational Challenges in Historical Perspective	3 s.h.
TCED 6936	Fundamentals of Curriculum	3 s.h.
TCED 6946	Supervision of Instruction	3 s.h.
TCED 6951	Interpersonal Communication for Educators	3 s.h.

MASTER OF SCIENCE IN EDUCATION - EDUCATIONAL SPECIALIST IN SCHOOL PSYCHOLOGY

PROGRAM DIRECTOR

Audrey E. Ellenwood
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PROGRAM DESCRIPTION

The school psychology program is housed in the Beeghly College of Education at Youngstown State University. Students who successfully complete 45 credit hours of coursework are awarded the Master of Education (M.Ed.) degree in Intervention Services. An additional 54 credit hours, including internship and a Change Project, are required for program completion and the awarding of the Educational Specialist (Ed.S.) degree in School Psychology. Candidates must also pass the PRAXIS II examination in school psychology for licensure in the State of Ohio and for certification by the National Association of School Psychologists (NASP).

The program provides a curriculum that is comprehensive, integrated, and sequential. It follows the school psychology standards set forth by the State of Ohio, NASP, and the National Council for the Accreditation of Teacher Education (NCATE). Courses reflect current advances in the field of school psychology and education. In addition, the program has a unique emphasis in low incidence disabilities. The program is committed to implementing and integrating the most current technology.

The school psychology program is structured so that course content is accompanied by appropriate field experiences. Practicum experiences are designed to provide students with opportunities to practice skills that are required in professional practice while under direct supervision. Practicum experiences occur in conjunction with specific courses and are individualized in terms of setting and assignment to a field supervisor.

An internship consisting of 15 semester hours during the third year of training is a culminating activity that provides students with the opportunity to develop professional competency while under supervision. The internship is completed on a full-time basis for nine months (1400 clock hours) in a school district, with supervision provided by appropriately licensed school psychologists.

FACULTY RESEARCH INTERESTS

Audrey E. Ellenwood, Ph.D., Associate Professor
Supervision issues, neuropsychological assessments, Wada Testing, family systems, cultural sensitivity enhancement, telepsychology, ADHD Issues, traumatic brain injuries, seizure disorders, autism, family therapy.

Richard W. Van Voorhis, D.Ed. NCSP, Assistant Professor
Role and function of school psychologists, career development topics, special education service delivery, low incidence disabilities, and assessment and identification issues.

Melinda L. Wolford, Ph.D., NCSP, Assistant Professor
Autism spectrum disorders, low incidence disabilities to include rare genetic syndromes, honoring different learning styles in the classroom setting, the effects of positive self-talk (redirecting thoughts), overall personal well-being, the effects of neurological disorders of childhood on behavioral response and learning.

ADMISSION REQUIREMENTS

The Youngstown State University school psychology program is a cohort-based program and will accept students on a full-time time basis. Part-time positions in the program are very limited and are only considered when space is available. The first year of the program commences during the summer. The requirements for applying to the YSU School Psychology program are:

- A baccalaureate degree from a regionally accredited university or college.

- Minimum undergraduate unrecalculated cumulative GPA of at least 3.2 or better on a 4.0 scale.
- Graduate Record Examination (GRE) Verbal and Quantitative Scores are required prior to applicant selection. Both Verbal and Quantitative scores should be greater than the 33rd percentile rank and a minimum Analytical Writing Score of 3.5 is recommended.
- Three letters of reference attesting to applicant’s motivation, professional commitment, interpersonal and communication skills, and professional capabilities. School of Graduate Studies Application Recommendation forms may be used.
- Official transcripts from all previously attended institutions.
- A “Position Paper” describing (a) your motivation and reasons for coming to graduate school and selecting the field of school psychology, (b) what you hope to achieve in graduate school and in the area of school psychology, (c) what your aspirations are following the receipt of the graduate degree and completion of the program, and (d) your personal qualities which relate to success as a graduate student and school psychologist.
- Minimum of 9 semester hours of undergraduate work in psychology. Three of the hours must include general psychology. A minimum course grade of “B” or better in each class is required.
- Completion of a Good Moral Character statement which reflects no criminal convictions that impact your ability to work in educational settings (provided at interview).

INTERVIEW

Applicants with an unrecalculated GPA of 3.2 or higher will be considered for a personal interview with program faculty members. The on-campus interviews will be arranged by the program director. These interviews will be held to evaluate applicants in terms of fluent communication, interpersonal skills, professionalism, motivation, and maturity. Following interviews a final acceptance decision will be made.

ASSISTANTSHIPS

Candidates may wish to apply for a graduate assistantship for which a stipend and an instructional fee waiver are awarded. However, available assistantships are limited. Graduate assistantship applications can be obtained from the School of Graduate Studies and Research. As the deadline for graduate assistantship applications is March 1, these applications should be submitted with admission materials.

SCHOLARSHIPS

In the second semester of course work, students can apply to the School of Graduate Studies and Research for a graduate school scholarship which provides a partial waiver of instructional fees. Scholarships are only available for master level students.

APPLICATION DEADLINE

The application deadline for submission of materials is February 1. Late applications may be considered if there are remaining seats after the interview process.

DEGREE REQUIREMENTS

Master of Education in Intervention Services

Requirements for M.Ed. Degree in Intervention Services:

Successful completion of the following 42 credit semester hours and successful completion of comprehensive examination (capstone experience)

Required courses for the M.Ed. in Intervention Services are as follows:

SPSY 6901	System Wide Consultation/Collaboration in the Schools	3 s.h.
SPSY 6909	Assessment and Intervention for Students with Low Incidence Disabilities	3 s.h.
SPSY 6912	Multilevel Tier Interventions Across General Education and Special Education Programming	3 s.h.

COUN 6962	Counseling Theory	3 s.h.
COUN 6973	Group Counseling Theory and Practice	2 s.h.
COUN 6973L	Group Counseling Laboratory	1 s.h.
SPSY 6904	Crisis Counseling	3 s.h.
PSYC 6905	Human Growth and Development	3 s.h.
PSYC 6955	Psychopathology	3 s.h.
SPSY 6902	School Organization, Classroom Analysis, Cross Categorical Settings	3 s.h.
SPSY 6905	Cultural/Ethnic Issues Relating to Youth and Families	3 s.h.
FOUN 6904	Introduction to Educational Research	3 s.h.
FOUN 6914	Statistical Methods in Education	3 s.h.
SPSY 6906	Role and Function of a School Psychologist	3 s.h.
Capstone Experience		
SPSY 6907	Comprehensive Readings in School Psychology	3 s.h.
SPSY 7003	Counseling Practicum	3 s.h.

Educational Specialist Degree in School Psychology

Requirements for Ed.S. Degree in School Psychology:

Successful completion of 24 required credit semester hours; successful completion of 12 practicum required credit semester hours; successful completion of 21 internship credit semester hours; approval of professional internship competency notebook; and successful completion of Change Project (Capstone experience partial fulfillment of SPSY 7512, 7513, and 7514 requirements).

Required Courses for the Ed. S. Degree in School Psychology are as follows:

SPSY 7500	Dynamic Assessment I	3 s.h.
SPSY 7503	Dynamic Assessment II	3 s.h.
SPSY 7506	Consultation Approaches to Treatment in Schools	3 s.h.
SPSY 7507	Classroom Assessment and Decision Making	3 s.h.
SPSY 7508	Neuropsychology, Low Incidence, and Learning Behavior	3 s.h.
SPSY 7509	Family Systems Within an Educational Context	3 s.h.
SPSY 7510	Professional Development Seminar in School Psychology	3 s.h.
SPSY 7511	School Psychology Internship Studies	3 s.h.

Practicum Courses

SPSY 7501	Dynamic Assessment Practicum in School Psychology I	3 s.h.
SPSY 7502	Cognitive Observation Practicum	3 s.h.
SPSY 7504	Dynamic Assessment Child Study Practicum II	3 s.h.
SPSY 7505	Dynamic Assessment Advanced Child Study Practicum III	3 s.h.

Internship Courses

SPSY 7512	Internship/Supervised Experience I	6 s.h.
SPSY 7513	Internship/Supervised Experience II	6 s.h.
SPSY 7514	Internship/Supervised Experience III	3 s.h.
SPSY 7515	Advanced Seminar in School Psychology I	3 s.h.
SPSY 7516	Advanced Seminar in School Psychology II	3 s.h.

MASTER OF SCIENCE IN EDUCATION – EDUCATIONAL TECHNOLOGY

PROGRAM DIRECTOR

Richard A. McEwing
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PROGRAM DESCRIPTION

The Educational Technology program prepares individuals to become reflective technology facilitators in school or non-school settings. These individuals will be able to perform a variety of tasks that are critical for the effective, efficient, and appropriate integration of technology into instructional settings. The design of the Educational Technology program allows an individual to earn a (1) graduate degree with the computer/technology endorsement, (2) a graduate degree without the computer/technology endorsement (This option is for non-education candidates), or (3) just the computer/technology endorsement.

FACULTY RESEARCH INTERESTS

Renee M. Eggers, Ph.D., Associate Professor
Distance education; professional development

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, applicants to the Master of Science in Educational Technology program must have the following:

- Completion of EDTC 3771, EDTC 6905, or similar course within the last five years. Exceptions may be made on a case-by-case basis on the approval of the graduate educational technology faculty.
- Competency in the National Educational Technology Standards for Teachers (NETS-T). This requirement must be met prior to enrollment in EDTC 6945. Contact the Department of Educational Foundations, Research, Technology, and Leadership for information on how to demonstrate competency.
- A valid Ohio teaching certificate/license if seeking the technology endorsement. Students without a teaching certificate or license may seek the degree only.
- Three professional recommendations

I. General Core Requirements (9 semester hours)

TCED 6936	Fundamentals of Curriculum Development	3 s.h.
FOUN 6904	Introduction to Educational Research	3 s.h.

Choose one:

FOUN 6901	Philosophical Analysis of Education	3 s.h.
FOUN 6902	Sociological Bases of Education	3 s.h.
PSYC 6903	Psychology of Education and Learning	3 s.h.
TCED 6951	Interpersonal Communications for Educators	3 s.h.
TCED 6959	Law and Ethics for the Classroom Teacher	3 s.h.
TCED 6999	Proactive Grant Seeking	3 s.h.

II. Educational Technology Core (24 semester hours) -All required

[Prereq: EDTC 3771 or EDTC 6905 or permission of instructor]

EDTC 6920	Instructional Design	3 s.h.
EDTC 6930	Instructional Multimedia Authoring	3 s.h.
EDTC 6940	Distance Education and On-line Information Dissemination	3 s.h.
EDTC 6950	Principles, Processes, and Supervision of Networking	3 s.h.
EDTC 6960	Educational Technology and Professional Development	3 s.h.
EDTC 6965	Technology Planning for Instructional Environments	3 s.h.

Note: To be enrolled in the three courses below, you must be fully admitted to the program and you have demonstrated competency in NETS-T.

EDTC 6945	Action Research in Educational Technology (Prereq: Demonstrated competency in NETS-T and full admission to the program)	3 s.h.
EDTC 6985	Portfolio in Educational Technology (Prereq: EDTC 6920, 6930, 6940, 6945, 6950, 6960, 6965) (Note: This course must be taken with EDTC 6990 and completed within the first five weeks of the semester. Failure to successfully complete EDTC 6985 will prevent entrance into EDTC 6990.)	1 s.h.
EDTC 6990	Practicum in Educational Technology (Prereq: EDTC 6920, 6930, 6940, 6945, 6950, 6960, 6965, 6985) (Note: This course must be taken with EDTC 6985 and completed within the last eleven weeks of the semester. Failure to successfully complete EDTC 6985 will prevent entrance into EDTC 6990.)	2 s.h.

Technology Endorsement

Candidates seeking the technology endorsement, but not wanting the degree, need to complete only the 24 semester hours specified under the Educational Technology Core section; full admission to the program is also required.

This endorsement component serves school personnel who hold an Ohio teaching certificate/license; the endorsement is applicable for grades K-12. Courses included in the endorsement component meet the standards established by the International Society for Technology in Education (ISTE) Standards for Technology Facilitation.

Total Hours Required for Endorsement	24 s.h.
Total Hours Required for Degree and Endorsement	33 s.h.

MASTER OF SCIENCE IN EDUCATION – SPECIAL EDUCATION

PROGRAM DIRECTOR

Jake J. Protivnak, Chair
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PROGRAM DESCRIPTION

The master's degree program in special education provides advanced cognitive and educational skills for those who are presently working or expect to work as clinical/developmental personnel serving individuals with exceptionalities or as supervisors of special education programs.

FACULTY RESEARCH INTERESTS

Marianne K. Dove, Ph.D., Professor
Assessment and education accountability; animal-assisted therapy; critical issues in child maltreatment; models for teaching persons with exceptionalities; teacher attrition

Leah Gongola, Ph.D., Assistant Professor
Autism and students with disabilities; reinforcement-based behavioral interventions; treatment acceptability and integrity; professional collaboration; the use of digital video to facilitate teacher training

Sylvia Imler, Ph.D., Associate Professor
Response to intervention; culturally responsive practices and management strategies; the effects of animals on learning; dispositions toward individuals with disabilities

Sally Lewis, Ph.D., Associate Professor
Alternative models of teacher preparation for special and gifted education; mentoring beginning career professionals; effective interventions for adolescents with disabilities and gifting

Benjamin L. McGee, Ed.D., Assistant Professor
Achievement gap between African American males and females; the effects of culturally responsive teaching practices

Melinda Wolford, Ph.D., Assistant Professor
Autism spectrum disorders; low incidence disabilities to include rare genetic syndromes; positive self talk; neurological disorders of childhood; behavioral responses and learning

ADMISSION REQUIREMENTS

In addition to the minimum School of Graduate Studies and Research admission requirements, all master's in special education applicants must have the following:

- Qualification for a teaching certificate or license (Ohio provisional or equivalent) if enrolled in a program leading to additional certification, licensure, validation or endorsement. Students without a teaching certificate or license may be admitted on an individual basis to special education graduate programs. However, additional coursework may be required for licensure.
- Three professional recommendations.
- Letter of intent – Candidates must provide a one page response to each of the following:
 1. What is the purpose of obtaining this degree?
 2. Statement of personal attributes that have prepared you for this profession.
- Personal interview

To take classes as a non-degree candidate, the approval of the department chair must be obtained. Non-degree candidates choosing to earn a degree must make formal application for admission to the degree

program. A GPA of 3.0 must be maintained in order to convert from non-degree to regular status.

LICENSURE REQUIREMENTS

Candidates with bachelor's degrees outside the College of Education will be required to complete additional coursework for licensure. For all candidates seeking a new area of licensure, SPED 5833 or SPED 6906 or equivalent, and passage of the appropriate PRAXIS exam is required by ODE. Individuals holding teacher certification must fulfill the Ohio Reading requirement (12 s.h), which includes a course in phonics.

DEGREE REQUIREMENTS

All candidates are required to purchase a Task Stream account to complete the critical tasks for each course, which is essential for National College Accreditation for Teacher Education (NCATE). A candidate for the program must meet all requirements for admission to the Graduate School as outlined in the YSU Graduate Bulletin.

General Option

A minimum of 36 semester hours of coursework is required for the Master of Science in Education degree in Special Education. Successful completion of a comprehensive examination is required for graduation. Individuals holding teaching certification must fulfill the Ohio Reading Requirement (12 semester hours).

Candidates are responsible for adhering to all special education policies.

A new cohort of students will begin each fall. Applications must be received no later than June 15th for consideration for the fall cohort.

Common Core

FOUN 6904	Introduction to Educational Research	3 s.h.
SPED 6900	Issues, Trends, & Foundations in Special Education	3 s.h.
SPED 6906	Characteristics & Behaviors of Learners with M/M & M/I Exceptional Learning Needs	3 s.h.
SPED 6914	Behavior Management for Educators	3 s.h.
SPED 6929	Assessment of Gifted and Exceptional Learners	3 s.h.

General Option

SPED 6986	Severe Behavior Disabilities	3 s.h.
SPED 7077	Leadership in Gifted & Disabilities Education	3 s.h.
SPED 6930*	Instructional Methodologies for Learners with M/M & M/I Exceptional Learning Needs	4 s.h.
SPED 6931*	Clinical Experience with Learners with M/M & Exceptional Learning Needs	3 s.h.
	<i>or</i>	
SPED 6981*	Seminar in Special Education	3 s.h.
SPED 6932*	Clinical Experience for Learners with M/I Exceptional Learning Needs	3 s.h.

*Clinical – 6930 concurrent with 6931 *or* 6981 concurrent with 6932

Cognates/electives 9 s.h.

Total Hours Required for Degree 36/37 s.h.

Early Childhood Special Education (ECSE) Option

Note: The Department of Counseling and Special Education has temporarily suspended admission to this program.

Autism and Related Disabilities Option

The Moderate/Intense Autism and Related Disabilities Option prepares candidates to teach students with autism and related disabilities as well as to develop advanced systematic instruction in life skills areas including learning and leadership skills appropriate to the area of specialization. Teachers who are currently licensed in special education, mild/moderate, or general education will receive Ohio licensure in the area of moderate/intense intervention specialist with the completion of core and additional option requirements (33 semester hours), as well as successfully passing a comprehensive examination. Candidates are responsible for adhering to special education policies.

During the summer clinical experience, students seeking a master's degree are required to demonstrate appropriate data based assessment, teaching and learning standards of knowledge, skills, and dispositions as specified by the National Council for Accreditation of Teacher Education and the Council for Exceptional Children.

A new cohort of students will begin each fall. Applications must be received no later than June 15th for consideration for the fall cohort.

Core Requirements

FOUN 6904	Introduction to Educational Research	3 s.h.
SPED 6900	Issues, Trends & Foundations in Special Education	3 s.h.
SPED 6906	Characteristics & Behaviors of Learners with M/M & M/I Exceptional Learning Needs	3 s.h.
SPED 6929	Assessment of Gifted & Exceptional Learners	3 s.h.
SPED 6914	Behavior Management for Educators	3 s.h.

Autism and Related Disabilities Option

SPED 5810	Introduction to Sign Language	3 s.h.
SPED 6928	Transition & Life Skill Supports for Learners with Moderate/Intensive Exceptional Learning Needs	3 s.h.
SPED 6993	Health & Related Issues in Early Childhood Special Education	3 s.h.
SPED 6996	Teaching Strategies/Autism	4 s.h.
SPED 6998	AAC Strategies	3 s.h.
SPED 6999	Field Experiences Autism/Related Disorders	3-6 s.h.

Total Hours Required for Degree 33 s.h.

Intervention Specialist Mild to Intensive Licensure Option

The Intervention Specialist Mild to Intensive Licensure option is designed for teachers holding licensure in elementary, middle, and/or adolescent education to complete a master's degree and obtain teaching licensure for students (K-12) with disabilities (Intervention Specialist in Mild to Intensive Disabilities). Students will be required to pass the appropriate PRAXIS II examination before completion of the practicum or review of student teaching equivalency. Successful completion of a comprehensive examination is required for graduation. Individuals holding teaching certification must fulfill the Ohio Reading Requirement (12 semester hours). A total of 34 semester hours is required.

Candidates are responsible for adhering to all special education policies.

A new cohort of students will begin each fall. Applications must be received no later than June 15th for consideration for the fall cohort.

Common Core

FOUN 6904	Introduction to Educational Research	3 s.h.
SPED 6900	Issues, Trends & Foundations in Special Education	3 s.h.
SPED 6906	Characteristics & Behaviors of Learners with M/M & M/I Exceptional Learning	3 s.h.
SPED 6914	Behavior Management for Educators	3 s.h.
SPED 6915	Classroom Management & Crisis Intervention	3 s.h.

Intervention Specialist Option

SPED 6927	Curriculum Design, Adaptations & Resources for Learners with M/M Exceptional Learning Skills	3 s.h.
SPED 6928	Transition & Life Skill Supports for Learners with M/I Exceptional Learning Needs	3 s.h.
SPED 6929	Assessment of Gifted & Exceptional Learners	3 s.h.
SPED 6930	Instructional Methodologies for Learners with M/M and M/I Exceptional Learning Needs	4 s.h.
SPED 6931	Clinical Experience with Learners with M/M Exceptional Learning Needs	3 s.h.
SPED 6932	Clinical Experience with Learners with M/I Exceptional Learning Needs	3 s.h.

Total Hours Required for Degree 34 s.h.

MASTER OF SCIENCE IN EDUCATION—TEACHER EDUCATION

PROGRAM DIRECTOR

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PROGRAM DESCRIPTION

The master teacher education program provides advanced professional preparation for teachers, administrators, and school guidance counselors. The Department of Teacher Education houses four specialty program areas for post baccalaureate study toward the M.S. in Education: curriculum and instruction master, early childhood education master, content area concentration master, and literacy master and/or reading specialist (pre K-12) endorsement-

The program focuses on the development of professionally committed practitioners so that they can reflect on and apply the current state of knowledge, skills, and competencies necessary for these individuals to function effectively in their chosen field. Central to the development of such professionals is the refinement and conveyance of competencies in the areas of scholarship, instruction, leadership, management, and interpersonal relations. Essential to the development of committed practitioners is the belief that all children can learn regardless of their specific diversities.

The Department of Teacher Education's mission is to empower teachers for professional practice. The mission commits the faculty to a theme of critical reflective practice where candidates are engaged in the pedagogies of critique in comparison and contrast to traditional practices of teaching and schooling. Faculty members are committed to educate candidates in values and ideas that motivate educators for the transformation of students and educational institutions. The Department also offers a variety of professional development courses and workshops.

FACULTY RESEARCH INTERESTS

Dora L. Bailey, Ph.D., Professor

Literacy; content area reading; mentoring; cooperative learning; classroom management; continual assessment; professional development; National Board for Professional Teaching Standards (NBPTS)

Lauren Cummins, Ed.D., Associate Professor

National Association for the Education of Young Children (NAEYC) standards; literacy development; mentorship; developmentally appropriate practice; learning communities; professional dispositions; digital storytelling

Mary Lou DiPillo, Ph.D., Associate Professor

International Reading Association Standards; emergent literacy; content area reading; visual literacy and its impact on reading comprehension; writing and literature connections in mathematics; impact of Professional Development Schools on teacher preparation

DeBorah D. Graham, Ph.D., Assistant Professor

Secondary education emphasis; content area reading; literacy learning and adapting for diversity; differentiation instruction and multiculturalism; reading achievement gap

Randy L. Hoover, Ph.D., Professor

No Child Left Behind (NCLB); education accountability; proficiency testing; authentic assessment; achievement gaps; democratic schooling; spirituality; ethics

Regina Rees, Ph.D., Associate Professor

Literacy; storytelling; children's and adolescent literature; content area reading

Gail Saunders-Smith, Ph.D., Assistant Professor

The development of emergent writing; the role of text structures on comprehension; the impact of teacher-student discourse on student learning

Janet B. Williams, Ph.D., Professor

National Science Teachers Association (NSTA) standards; safety in science classrooms; Quality Matters; distance education: course development and delivery; action research in urban and rural settings

ADMISSION REQUIREMENTS

To be admitted to the Master of Science in Education degree program in the Department of Teacher Education, the applicant must have earned a bachelor's degree from an accredited college or university.

Regular Admission

In addition, the applicant must meet the following criteria:

- qualification for a teaching certificate/license (Ohio provisional or equivalent) if enrolled in a program leading to additional certification, licensure, validation, or endorsement. However, those individuals who have earned baccalaureate degrees but do not possess certificates/licenses will be admitted on a case-by-case basis after review of their credentials and needs relative to specific career paths requiring expertise in curriculum and instruction in nonschool settings. (Please check the program descriptions to see additional program requirements for separate master's strands in Teacher Education).
- an unrecalculated undergraduate cumulative grade point average of at least 2.7 (on a 4.0 scale) or an unrecalculated graduate cumulative grade point average of 3.0.
- adequate preparation for the graduate program in which the student wishes to enroll, as evidenced by three professional recommendations.

Provisional Admission

For provisional admission, the applicant must meet the following criteria:

- qualification for a teaching certificate/license (Ohio provisional or equivalent) if enrolled in a program leading to additional certification, licensure, validation, or endorsement.
- an unrecalculated undergraduate grade point average of at least 2.7, or a graduate grade point average of less than 3.0, then an MAT raw score of 39 (1992 norms) or an MAT scaled score of 394 (2003 norms) is required.
- adequate preparation for the graduate program in which the student wishes to enroll, as evidenced by three professional recommendations.

Once admitted provisionally, and after nine semester hours of graduate level work have been completed, the department automatically reviews the student's record. If a GPA of at least 3.0 has been maintained, the student is converted from provisional to regular status. A provisional student whose GPA falls below a 3.0 will immediately be dismissed.

Non-degree Admission

For non-degree admission, the applicant must meet the following criteria:

- qualification for a teaching certificate/license (Ohio provisional or equivalent) if enrolled in a program leading to additional certification, licensure, validation, or endorsement.
- a written statement verifying that he or she has a degree and an undergraduate grade point average of 2.7. An official transcript must be provided by the end of the semester in which the student is first enrolled for verification.
- an undergraduate grade point average of less than 2.7 or a graduate grade point average of less than 3.0, then an MAT raw score of 39 (1992 norms) or an MAT scaled score of 394 (2003 norms) is required.
- If the undergraduate grade point average is below 2.7 and the MAT score is below the cutoff score, admission is refused. If the graduate grade point average is below 3.0 and the MAT score is below the cutoff score, admission is refused.

- Workshop courses:
 - Anyone can sign up for credit-bearing workshops; however, in order to move those credits into a graduate program, the above applies
 - In order to move workshop credit into a graduate program, approval must be given in advance of the workshop
 - Only two YSU workshops totaling 6 hours may count in graduate programs

Non-degree status students may be blocked from enrollment in selected courses.

Non-degree students who later wish to earn a degree must make formal application for admission to the degree program and meet all requirements of the regular admission process. Non-degree status performance may inform, but in no way assures, admission into the degree program.

Once admitted as a non-degree student, a maximum of nine semester hours of regular course graduate-level work may be applied toward a degree. A GPA of 3.0 must be maintained in order to convert from non-degree to regular status. Any student in non-degree status whose cumulative grade point average drops below the minimum (3.0) will be prohibited from enrolling in further graduate coursework.

DEGREE REQUIREMENTS

A minimum of 33 semester hours is required for the degree. In general, the master teacher education program requires a common core of courses, common core option courses, and specialty program area requirements. Additionally, students must pass a comprehensive examination.

Required Courses for Teacher Education Programs	15 s.h.*
Core Requirements	9 s.h.
TCED 6936	Fundamentals of Curriculum Development 3 s.h.
FOUN 6904	Introduction to Educational Research <i>or</i> <i>for ECE and Literacy strands:</i> TCED 6932 Action Research in Urban and Rural Education 3 s.h.
PSYC 6903	Psychology of Learning and Education 3 s.h.
Core Options	6 s.h.**
Choose One:	
EDTC 6905	Technology in Instructional Settings <i>or</i>
TCED 6951	Interpersonal Communications for Educators <i>or</i>
TCED 6959	Law and Ethics for the Classroom Teacher <i>or</i>
TCED 6999	Proactive Grant Seeking <i>or</i>
TERG 6917***	Literacy and Language Arts Programs 3 s.h.
Choose One****	
FOUN 6901	Philosophical Analysis of Education <i>or</i>
FOUN 6902	Sociological Bases of Education 3 s.h.
Specialty Program Area	18 s.h.*****

* Literacy Masters candidates will only have 12 s.h. in Required Courses.

** Literacy Masters candidates will only have 3 s.h. in Core Options.

*** TERG 6917 is the designated Core Option course for Literacy Masters candidates; however, students in other specialty program areas may also enroll.

**** Literacy Masters candidates do not choose a course from this category.

***** Literacy Masters candidates will have 21 s.h. in their specialty program area.

Total Hours Required for Degree 33 s.h.

Curriculum and Instruction Program

The Curriculum and Instruction program is designed to accommodate the generalist perspective that some school districts need.

Required Courses and Core Option Courses 15 s.h.

Specialty Program Area Courses, Curriculum and Instruction 18 s.h.

TCED 6922 Principles of Instruction 3 s.h.

Five courses from the College of Education approved by the student's advisor, including pre-approved workshop credit. Generally, it is advised that one course in Counseling and one course in Special Education is taken, as well as three courses from the Department of Teacher Education.

Total Hours Required for Degree 33 s.h.

A comprehensive examination covering FOUN 6901 or 6902, FOUN 6904, TCED 6922, and TCED 6936 is required to graduate with the master's degree. Please see the Department of Teacher Education for application forms, times, and dates.

Early Childhood Education Program

The Early Childhood Education program specialty area provides in-depth advanced study for experienced early childhood education teachers in the areas of research-based curriculum planning and assessment linked to the development and learning of young children. Candidates in this program will have already successfully demonstrated competence in relation to NAEYC's Initial Licensure Standards (NAEYC2003, Preparing Early Childhood Professional: NAEYC Standards for Programs, p. 79). Therefore, candidates in this program will be licensed early childhood education teachers who will use their knowledge, skills, and related dispositions in greater depth, complexity, and applicability to the professional context. This program area is available in both traditional and distance learning formats. It is highly recommended that TCED 6909, An Orientation to On-Line Learning, be taken *before* a candidate takes a distance learning course in the ECE graduate program.

Required Courses and Core Option Courses 15 s.h.

FOUN 6904 Introduction to Educational Research *or* 3 s.h.

TCED 6932 Action Research in Urban and Rural Education 3 s.h.

Specialty Program Area Courses, Early Childhood Education 18 s.h.

ECE 6910 Curriculum, Theories, and Methods in Early Childhood Education, Pre-K-Grade 3 3 s.h.

ECE 6911 Early Childhood Pedagogy in Math and Science 4 s.h.

ECE 6920 Current Social Issues in Early Childhood Education 3 s.h.

ECE 6921 Action Research in Early Childhood Education, Pre-K-Grade 3 3 s.h.

TERG 6923 Literacy and Phonics Instruction: Early Years 3 s.h.

SPED 5858 Intervention Concepts and Strategies in Early Childhood Special Education 2 s.h.

Total Hours Required for Degree 33 s.h.

All master teacher candidates in early childhood education must complete a comprehensive exam in their major. Please see the Department of Teacher Education for application forms, times, and dates. Distance Learning Candidates will complete a Master Teacher Reflective Portfolio. All candidates must also acquire a TaskStream account at the beginning of their studies.

Content Area Concentration Program

Required Courses and Core Option Courses	15 s.h.
Specialty Program Area Courses, Subject Area Courses	18 s.h.
TCED 6922 Principles of Instruction	3 s.h.
Electives in Teaching Area or Thesis: Students must elect 15 s.h. of coursework in collaboration with their content advisors to complete the teaching area requirement. In some cases, workshop and process hours will be approved for degree credit within this section.	
Optional	
SED 6999 Thesis—Thesis hours may apply to the 33 s.h. required for Specialty Program Area courses	2-6 s.h.
Total Hours Required for Degree	33 s.h.

Note: HPES Principles of Instruction course may be substituted for TCED 6922.

A comprehensive examination covering FOUN 6901 or 6902, FOUN 6904, TCED 6922, and TCED 6936 is required to graduate with the master's degree. Please see the Department of Teacher Education for times and dates. Those selecting the thesis option are not required to take the comprehensive examination.

Literacy Master and/or Reading (Pre-K-12) Endorsement Program

The Literacy Master and/or Reading (Pre-K-12) Endorsement program specialty area prepares candidates to develop advanced cognitive and leadership skills appropriate for lead teacher, curriculum coordinator, and mentor in literacy. Literacy professionals with an endorsement and/or master's degree in literacy are responsible for meeting literacy needs of all students. The standards and criteria for judging candidates are established by the International Reading Association (IRA) and mandated by the Ohio Department of Education.

Required Courses and Core Option Courses	12 s.h.
FOUN 6904 Introduction to Educational Research <i>or</i>	3 s.h.
TCED 6932 Action Research in Urban and Rural Education	3 s.h.
Specialty Program Area Courses, Reading Specialist	21 s.h.
TERG 6922 Organizing and Managing Diverse Literacy Environments	3 s.h.
TERG 6923* Literacy and Phonics Instruction: Early Years	3 s.h.
TERG 6924* Content Literacy Young Adolescent to Adult	3 s.h.
TERG 6926* Reading and Language Arts Assessment I	3 s.h.
TERG 6927* Practicum: Coaching for Effective Literacy Instruction	3 s.h.
TERG 6928* Practicum: Case Study in Reading and Language Arts	3 s.h.
TERG 6929 The Reading and Language Arts Professional	3 s.h.
Total Hours Required for Degree	33 s.h.

* Courses required for Endorsement.

All master teacher reading candidates must pass a comprehensive examination in the area of specialization. The comprehensive examination follows completion of required courses for the specialization. Please see the Department of Teacher Education for applications, times, and dates. Candidates must also acquire a TaskStream account at the beginning of their studies.

“An endorsement of a teacher license, valid for teaching the subject or learners named, shall be issued to an individual who holds a baccalaureate degree; who is deemed to be of good moral character; who has successfully completed an approved program of preparation; who has successfully completed an examination prescribed by the State Board of Education; and who has been recommended by the dean or head of teacher education at an

approved institution. The endorsement may be added to any standard teaching certificate, or provisional or professional teaching license.” (From ODE, 2004, *Teacher Education Licensure Standards*)

Passage of Praxis II 0204 *Teaching Reading* is required by ODE for endorsement.

Literacy Specialist Certificate

The 18 semester-hour Literacy Specialist Certificate program is a consortium-based advanced program in literacy education. The consortium includes eight Ohio universities. The program is offered online and is available to educators nationally and internationally. It is offered along with the LS Endorsement, which is a pathway for those seeking the state credential (i.e. the Literacy Specialist Endorsement) for eligible Ohio educators. Coursework is taken throughout one calendar year and includes 10 semester hours of coursework and an 8 semester-hour internship. Successful completion of the program qualifies the individual to serve in instructional leadership positions (e.g. coaching individual teachers, preparing and delivering group professional development sessions) at the state, regional, and local educational levels.

Admission is limited to those students who have requested YSU, or have been assigned by the consortium to YSU as their home institution, and meet the following admission requirements:

- advanced education degree in literacy (e.g. graduate reading endorsement or master’s degree in literacy)
- a bachelor’s degree from a college or university certified by a regional accrediting agency (e.g. North Central Association of Colleges and Schools) approved by the U.S. Department of Education
- official transcripts of all higher education institutions attended
- a minimum unrecalculated undergraduate GPA of 2.7
- at least 3 years of successful teaching experience
- experience teaching literacy
- two letters of recommendation supporting experience and success in leading professional development in educational settings
- letter of interest
- teaching certificate or license
- letter of assurance signed by administrator acknowledging awareness of out-of-classroom time needed to complete year long Internship requirements
- resume

Preferred qualifications: (a) one or more years experience as a professional development provider in year long, school-based professional development in literacy, (e.g. Reading Recovery, Reading First, Literacy Collaborative) and (b) a minimum of one year of one-on-one coaching of classroom teachers.

Contact the Department of Teacher Education (330-941-3251) for additional information about the Literacy Specialist Certificate.

MASTER OF SCIENCE IN ENGINEERING

The Rayen School of Engineering and Engineering and Technology, as part of the College of Science, Technology, Engineering, and Mathematics, offers a graduate program leading to the Master of Science degree in engineering. Admission to any of the five engineering options, including chemical, civil and environmental, electrical, industrial and systems, and mechanical engineering, is granted to qualified applicants who have been judged to have a good chance of succeeding in the program and obtaining a graduate degree. Several technical concentration areas are available in each option. Students may select a thesis, non-thesis, or management curriculum plan. These opportunities serve the practicing engineer, as well as the student, who wants to pursue advanced graduate study and research. Courses offered on campus are usually held during the evenings. The educational opportunities include traditional classroom and laboratory courses, seminars, and research projects guided by experienced members of the graduate faculty.

Teaching or research assistantships are available to qualified applicants on a competitive basis upon review and recommendation by the home department. In addition, the School of Graduate Studies and Research may offer scholarships or grants-in-aid to qualified students. Students desiring assistantships or scholarships must submit an application to the School of Graduate Studies and Research by the specified deadlines.

This description provides an overview of admission and degree requirements, advising, and program plans. Information concerning course scheduling and prospective course offerings can be obtained from the YSU website or the individual engineering departments. Further assistance with any matter related to engineering graduate programs may be obtained by telephone, email, or personal visit to the program option coordinator in the student's area of interest.

ADMISSION REQUIREMENTS

Degree Programs

Applicants must meet all of the general requirements for admission to the School of Graduate Studies and Research. Admission to the program is selective and based on the qualifications of the applicant, the needs of the program, and the availability of funding. Applicants with lesser qualifications may be granted provisional graduate student status based on evaluation of their undergraduate records, standardized test (e.g. GRE) results, work experience, and other professional qualifications.

In cases where the applicant is not fully prepared for their intended graduate program, completion of undergraduate deficiency courses may be required. This is common when the applicant's undergraduate degree is in a different discipline than the intended graduate program. Such applicants may be granted provisional admission as long as they require no more than 9 semester hours of undergraduate deficiency courses. In addition, some programs may require stronger evidence of academic ability (e.g. higher GPA) for applicants having undergraduate degrees outside the discipline.

Non-Degree Admission

Students meeting all requirements for admission to the School of Graduate Studies and Research, but who do not intend to pursue a Master of Science degree, may apply for non-degree admission. In addition, an applicant whose academic record does not meet the required standards for admission to a Master of Science program may apply for non-degree admission to the School of Graduate Studies and Research. For students wishing to pursue a Master of Science in Engineering degree, non-degree admission provides an opportunity to demonstrate his/her academic capability. Non-degree students completing nine semester hours of appropriate graduate courses with grades of B or better may apply for admission to a specific engineering degree option with regular or provisional status to continue his/her study for the Master of Science in Engineering.

ADVISEMENT

The Rayen School of Engineering and Engineering Technology requires an advisor for each individual graduate student. An advisor is recommended by the option coordinator in the student's discipline and assigned by the School of Graduate Studies and Research upon acceptance. It is the responsibility of the student to initiate contact with his or her advisor, and this should be done as soon as possible before registering for the first time and at the time of course registration each semester. The student, with the help of his or her advisor, shall

develop a study plan that includes goals and desired outcomes, and a coursework plan. The plan may be revised, if necessary, as the study progresses, with the approval of the advisor and option coordinator.

DEGREE REQUIREMENTS

The Master of Science in Engineering may be characterized as being both career-oriented and flexible. Program plans and options are available to accommodate the needs of nearly every engineering graduate student. Graduate students enrolled in any of the engineering graduate programs must complete 30 semester hours for the thesis plan, 33 semester hours for the nonthesis plan, or 36 semester hours for the management plan.

The degree requirements consist of core courses, technical courses, and project courses. The management plan also requires a series of business courses. These degree programs are designed to provide graduate students with the knowledge and skills to excel in professional careers and/or pursue a PhD or doctorate degree in engineering. To obtain a list of core and technical course requirements for a particular engineering discipline, students should contact the option coordinator for the program of interest.

PROGRAM PLANS

Thesis Plan

Graduate students choosing the thesis plan are required to complete 30 semester hours of graduate coursework. This generally consists of six to nine semester hours of core courses, 15-18 semester hours of technical concentration courses, and six semester hours of thesis. This plan is strongly recommended for all candidates who wish to continue their graduate studies beyond the master's degree. The thesis provides firsthand experience with experimental design, literature searches, research methodology, technical report writing, and oral presentation of results. Additionally, the thesis option can lead the graduate student to a higher level of expertise in the chosen area of specialization.

Non-thesis Plan

The non-thesis plan is designed for students who wish to enhance their knowledge and skills to succeed in careers as practicing engineers, but are unlikely to pursue a PhD or doctorate degree. A total of 33 semester hours of coursework is required for this plan. In addition to 6-9 semester hours of core courses, every student enrolled in this option is required to complete 21-24 semester hours of technical courses related to their discipline, and a 3-semester-hour graduate project course. A graduate student enrolled in a graduate project course will be required to defend the results of his or her project by giving a presentation to the engineering faculty and students.

Management Plan

Students who have been in the work arena and are moving into an engineering management role may wish to choose the management plan. A total of 36 semester hours of coursework is required for this plan. This consists of 6-9 semester hours of core courses, 9-12 semester hours of business courses, 12-18 semester hours of technical courses, and a 3-semester-hour graduate project. A graduate student enrolled in a graduate project course will be required to defend the results of his or her project by giving a presentation to the engineering faculty and students.

GRADUATE ASSISTANTSHIPS

Students interested in a graduate assistantship position must submit a separate application along with three recommendations to the School of Graduate Studies and Research. Further details are provided elsewhere in the Graduate Bulletin under Financial Assistance. The School of Graduate Studies and Research will forward the application to the department. Each engineering department has established a process for evaluating applicants. Applicants should contact the option coordinator in their field of interest for details. Final recommendations are forwarded to the dean of the School of Graduate Studies and Research. Applicants are notified by mail of the dean's decision.

CHEMICAL ENGINEERING

OPTION COORDINATOR

Douglas M. Price
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OPTION DESCRIPTION

Chemical engineers apply scientific and engineering knowledge to design and produce a wide variety of consumer and industrial products, including food, fuels, plastics, pharmaceuticals, etc. Chemical engineers find exciting global career opportunities in the chemical, biomedical, nuclear, pharmaceutical, and energy fields. Graduate study in chemical engineering provides students with the scientific and professional knowledge necessary for their field of interest and develops student abilities to formulate solutions to new and complex problems in the context of current environmental, social, and economic considerations. These objectives are accomplished by flexible plans of study designed to meet the needs of the program's graduate students. The program includes thesis, non-thesis, and engineering management plans.

Facilities for advanced study and research are located in Moser Hall, which houses a variety of well-equipped laboratories. These include the heat transfer lab, distillation lab, and biochemical engineering lab. In addition, the college computer lab provides access to a large number of modern PCs with high-speed internet connections.

FACULTY RESEARCH INTERESTS

Martin Abraham, Ph.D., Professor
Reaction engineering; catalysis; sustainability

Pedro Cortes, Ph.D., Assistant Professor
Materials science and engineering; high performance materials, polymers; composites

Jeanette Garr, PhD, Professor
Bionengineering; enzyme kinetics/modeling; composite materials; energy production (fossil fuels)

Soon-Sik Lim, PhD, Professor
Computer modeling of chemically reacting systems; hazardous material/waste incineration; mathematical modeling of gas lasers; nuclear and optically pumped gas lasers

Douglas Price, PhD, Associate Professor
Energy from renewable resources; catalytic fluidized bed simulation; injection molding; dynamic distillation column modeling

DEGREE REQUIREMENTS

At the time of initial enrollment, the student will select a program plan (thesis, non-thesis, or management) and technical area of interest (e.g. chemical processes, biochemical, environmental, materials). The degree requirements for each program plan are listed in the general description of the Master of Science in Engineering program. A list of required courses and possible electives for each plan may be obtained from the graduate program's option coordinator.

In cooperation with an assigned faculty advisor, each student will establish a set of academic goals and desired outcomes, and a coursework plan to meet those objectives. Upon completion of the graduate program, all students will complete either a written or an oral assessment of the effectiveness of the program in meeting their established goals and outcomes.

Thesis students who have registered for all required thesis hours and have completed all course requirements but have not finished the thesis are required to maintain current student status if they expect to utilize any

University service (e.g., parking, computers, library, advisors' assistance, thesis defense, etc.). This can normally be accomplished by registering for at least one hour of thesis credit.

CIVIL AND ENVIRONMENTAL ENGINEERING

OPTION COORDINATOR

Scott C. Martin
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scmartin@ysu.edu

OPTION DESCRIPTION

Civil and environmental engineers apply scientific and engineering knowledge to protect and improve the public health and welfare through the intelligent shaping of our environment. Graduate study in civil and environmental engineering provides students with advanced scientific and engineering knowledge in their field of interest and develops their abilities to formulate solutions to new and complex problems in the context of current environmental, social, and economic considerations. These objectives are accomplished by flexible plans of study designed to meet the needs of individual graduate students. Graduates find fulfilling careers in private industry, private consulting practice, and governmental service and are prepared for doctoral-level work leading to research/teaching careers. The program includes thesis, non-thesis, and management plans. The civil engineering program offers opportunities for advanced study in two main areas—environmental/water resources engineering and structural/geotechnical engineering.

Facilities for advanced study and research are located in Moser Hall, which houses a variety of well-equipped laboratories. These include the strength of materials lab, hydraulics/fluid mechanics lab, environmental engineering lab, geotechnical engineering lab, and concrete mixtures lab. In addition, the college computer lab provides access to a large number of modern PCs with high-speed internet connections.

FACULTY RESEARCH INTERESTS

Javed Alam, PhD, Professor
Structural mechanics; technology-supported teaching and learning

Shakir Husain, PhD, Professor
Pavement evaluation design; construction management; highway materials; traffic flow analysis and management

Anwarul Islam, PhD, Associate Professor
Structural design; hurricane and blast loading on bridges; structural health monitoring

Scott C. Martin, PhD, Professor
Water quality modeling; watershed management; pollutant-sediment interactions; sustainable development

DEGREE REQUIREMENTS

At the time of initial enrollment, the student will select a program plan (thesis, non-thesis, or management) and technical concentration area (environmental/water resources or structural/geotechnical). The requirements for each program plan are listed in the general description of the Master of Science in Engineering program. Lists of required courses and possible electives for each plan may be obtained from the graduate program option coordinator.

In cooperation with an assigned faculty advisor, each student will establish a set of academic goals and desired outcomes, and a coursework plan to meet those objectives. Upon completion of the graduate program, all students will complete either a written or an oral assessment of the effectiveness of the program in meeting their established goals and outcomes.

Thesis students who have registered for all required thesis hours and have completed all course requirements

but have not finished the thesis are required to maintain current student status if they expect to utilize any University service (e.g., parking, computers, library, advisors' assistance, thesis defense, etc.). This can normally be accomplished by registering for at least one hour of thesis credit.

ELECTRICAL AND COMPUTER ENGINEERING

OPTION COORDINATOR

Jalal Jalali
2055 Moser Hall
(330) 941-3012
jjalali@ysu.edu

OPTION DESCRIPTION

The Department of Electrical and Computer Engineering provides opportunities for post-baccalaureate study toward the Master of Science in Engineering. These opportunities serve the practicing engineer as well as the student who wants to pursue advanced graduate study and research. Thesis, nonthesis, and management options/plans are available. Areas of study include control systems, digital systems, computer engineering, RF communications, computer-aided design, device and circuit modeling, solid-state devices, sensors, power systems and energy, power electronics, electromagnetic fields, electromechanical systems, and system analysis and design. The student is encouraged to interact with the faculty and explore these opportunities.

FACULTY RESEARCH INTERESTS

Jalal Jalali, PhD, Professor
Electromagnetic; power systems; power electronics; FR engineering; energy efficiency

Frank X. Li, PhD, Associate Professor
Wireless sensor networks; applied magnetic fields; FR engineering; software engineering; computer networks

Faramarz Mossayebi, PhD, Associate Professor
Control systems; nonlinear dynamic systems; chaos theory; digital signal processing

Phil Munro, PhD, Professor
Computer-aided design and modeling; thermal effects; solid-state devices

Salvatore Pansino, PhD, Professor
Electromagnetic fields; sensors; communications; energy conversion

DEGREE REQUIREMENTS

The basic degree requirements for each program plan are described under the general program description for the Master of Science in Engineering. Descriptions of course requirements and available electives for each program plan in the electrical engineering master's program can be obtained from the graduate option coordinator.

Within the first semester of graduate study, every graduate student must complete an option plan form signed by the student, academic advisor, and the department graduate option coordinator. The student may seek another advisor in case of interest changes. Likewise, the student-advisor relationship may be terminated at the advisor's recommendation. The graduate option coordinator is available to discuss these and other issues as appropriate.

Selected electrical engineering (ECEN) graduate courses are offered each semester based on the available teaching resources and student needs. Each graduate candidate is required to receive advising each semester from the department graduate option coordinator before registration. Based on the graduate student's academic background, work experience, and academic goals, the department graduate option coordinator may approve a student's request to substitute a graduate course not listed on the applicable program plan description.

INDUSTRIAL AND SYSTEMS ENGINEERING

OPTION COORDINATOR

Martin Cala
2520 Moser Hall
(330) 941-1746
mcala@ysu.edu

OPTION DESCRIPTION

The industrial engineering program option provides opportunities for interdisciplinary graduate studies toward the Master of Science in Engineering with specialization in engineering management or industrial/manufacturing systems engineering. Students can also pursue study focused on specialized areas of industrial and systems engineering, such as operations research.

All study plans are interdisciplinary and include some coursework from outside the department. They are designed to serve practicing engineers, as well as those students who want to pursue advanced graduate studies and research beyond the Master of Science in engineering.

FACULTY RESEARCH INTERESTS

Martin Cala, PhD, Professor
Human factors; quality and productivity

Hojjat Mehri, PhD, Professor
Facilities design; manufacturing systems; engineering management

Darrell Wallace, PhD, Associate Professor
Manufacturing processes, systems and sustainability

DEGREE REQUIREMENTS

At the time of initial enrollment, the student will select a program plan (thesis, non-thesis, or management) and technical concentration area (engineering management, industrial/manufacturing systems engineering, operations research, etc.) The requirements for each option are enumerated in the general description of the Master of Science in Engineering program. Lists of required courses and possible electives for each plan may be obtained from the graduate program option coordinator. Every graduate student is responsible for selecting an area of specialization by signing a special form designed for this purpose. A student may change his or her area of concentration or program of study in consultation with his or her advisor.

In cooperation with an assigned faculty advisor, each student will establish a set of academic goals and desired outcomes, and a coursework plan to meet those objectives. Courses taken without the permission of the advisor may not be used to meet the degree requirements.

Thesis students who have registered for all required thesis hours and have completed all course requirements but have not finished the thesis are required to maintain current student status if they expect to utilize any University service (e.g., parking, computers, library, advisors' assistance, thesis defense, etc.). This can normally be accomplished by registering for at least one hour of thesis credit in ISEN 6990.

MECHANICAL ENGINEERING

OPTION COORDINATOR

Hazel Marie
2530 Moser Hall
(330) 941-3017
hmarie@ysu.edu

OPTION DESCRIPTION

The program option in mechanical engineering offers the Master of Science in Engineering with specialization within the general mechanical engineering disciplines. Specializations are available in the areas of mechanical analysis/design and fluid thermal systems. The thesis and non-thesis plans are for students who seek to deepen their theoretical knowledge and strengthen their ability to solve more advanced engineering problems, while the management plan is for those who wish to include managerial training in their program of preparation.

The Department of Mechanical Engineering has excellent computer and laboratory facilities that provide for the following design and research capabilities: solid modeling, FEA in stress analysis, structural dynamics and heat transfer, experimental stress analysis, vibrations and noise control, computational and experimental heat transfer and fluid dynamics, and advanced machine design.

FACULTY RESEARCH INTERESTS

Hyun W. Kim, Ph.D., P.E., Professor
Heat transfer; alternative energy; fluid power

Hazel Marie, Ph.D., D.A.S., Associate Professor
Control; fluid thermal sciences; CAD; modeling

Yogendra Panta, Ph.D., Assistant Professor
Microfluidics/lab-on-a chip; magnetohydrodynamics (MHD); fluid dynamics/computational fluid dynamics (CFD); transport phenomena

Elvin B. Shields, Ph.D., P.E., Professor
Flow-induced vibration; advanced fracture mechanics

Virgil C. Solomon, Ph.D., Assistant Professor
Materials analysis and characterization; electron microscopy

Darrell R. Wallace, Ph.D., Associate Professor
Manufacturing processes; systems and sustainability

DEGREE REQUIREMENTS

At the time of initial enrollment, the student will select a program plan (thesis, non-thesis, or management) and technical concentration area (engineering management, industrial/manufacturing systems engineering, operations research, etc.). The requirements for each option are listed in the general description of the Master of Science in Engineering program. Lists of required courses and possible electives for each plan may be obtained from the graduate program option coordinator. In cooperation with an assigned faculty advisor, each student will establish a set of academic goals and desired outcomes, and a coursework plan to meet those objectives.

Thesis students who have registered for all required thesis hours and have completed all course requirements but have not finished the thesis are required to maintain current student status if they expect to utilize any University service (e.g. parking, computers, library, advisors' assistance, thesis defense, etc.). This can normally be accomplished by registering for at least one hour of thesis credit in MECH 6990.

MASTER OF SCIENCE IN NURSING

CLINICAL OPTIONS

- Adult-Gerontology Clinical Nurse Specialist
- Clinical Nurse Specialist Chronic Illness (Admission to this option has been suspended.)
- Family Nurse Practitioner (FNP)
- School Nurse
- Nurse Anesthetist
- Nurse Education

MSN PROGRAM DIRECTOR

Louise Aurilio
3067 Cushwa Hall
(330) 941-1791
laaurilio@ysu.edu

DEPARTMENT CHAIR

Patricia Hoyson
3087 Cushwa Hall
(330) 941-3292
plhoyson@ysu.edu

PROGRAM DESCRIPTION

The Master of Science in Nursing program is designed for baccalaureate-prepared nurses who have strong undergraduate foundations in critical thinking, decision-making, and nursing practice. The program consists of five options, with specialization in clinical nursing for chronic illness care, nurse anesthesia, school nursing, and nurse education. The core curriculum centers on professional nursing issues, nursing science, and research methods for building nursing knowledge. The advanced practice chronic illness care option focuses on the delivery of comprehensive care to individuals and groups experiencing chronic illnesses. The nurse anesthetist option focuses on the administration of anesthesia to individuals requiring surgical and nonsurgical diagnostic procedures. The school nurse option focuses on delivery of comprehensive care to individuals in the school environment. The nurse education option focuses on delivery of nursing and patient education to individuals in academic, health-care delivery, and community settings.

The Master of Science in Nursing program is accredited by the National League for Nursing Accrediting Commission, Inc. (NLNAC). In addition, the nurse anesthetist option is fully accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA). For additional information regarding accreditation, contact the NLNAC:

National League for Nursing Accrediting Commission (NLNAC)
61 Broadway
New York, NY 10006
Telephone: 1-800-699-1656, ext. 153
Fax: (212) 812-0390

All graduates of the program are prepared to:

- utilize appropriate theories to provide high quality nursing care
- provide cost-effective, ethical, and quality management of health care resources in diverse settings
- apply knowledge of the Health Care Delivery System through utilization of appropriate system mechanisms
- synthesize research findings for practice utilization
- conduct and participate in nursing research studies

Upon successful completion of the M.S.N. program, graduates are eligible to sit for national certification examinations. Once certified, graduates must apply for a Certificate of Authority to practice as an Advanced Practice Nurse in the State of Ohio or of the state in which they intend to practice.

Graduates of the adult-gerontology clinical nurse specialist option are prepared to:

- practice in advanced nursing roles and provide care to the entire adult/older-adult age spectrum across the continuum of care from wellness to acute care. The patient population of the Adult-Gerontology CNS practice includes young adults (including late adolescents and emancipated minors), adults, and older adults (including young-old, old, and old-old adults)
- incorporate a variety of theories from nursing and related fields into adult-gerontological nursing practice and management roles.
- analyze social issues related to the health care delivery system and advanced nursing practice.

Graduates of the clinical nurse specialist-chronic illness care option are prepared to:

- practice in advanced nursing roles within the Health Care Delivery System.
- incorporate a variety of theories from nursing and related fields into nursing practice and management roles.
- analyze social issues related to the Health Care Delivery System and advanced nursing practice.

Graduates of the school nurse option are prepared to:

- work in the clinical practice specialty of school health utilizing advanced practice nursing roles.
- incorporate a variety of theories from nursing and related fields into nursing practice and management roles.
- analyze social issues related to the Health Care Delivery System and advanced nursing practice.

Graduates of the Nurse Anesthetist option are prepared to:

- administer anesthesia in a variety of practice settings to patients needing anesthesia care.
- utilize advanced practice nursing roles within the Health Care Delivery System.

Graduates of the Nurse Education option are prepared to:

- practice in advanced nurse educator roles within Academic, Health Care Delivery and Community settings.
- incorporate a variety of theories from nursing and related fields into nursing practice and education roles.
- analyze social issues related to Health Care Delivery Systems and nursing education.

Graduates of the Family Nurse Practitioner option are prepared to:

- provide primary care to families and persons of all ages within the health care delivery system
- incorporate a variety of theories from nursing and related fields into the nurse practitioner role
- analyze social issues related to the health care delivery system and advanced nursing practice

The Master of Science in Nursing in nurse anesthesia is a cooperative program between Youngstown State University and St. Elizabeth Health Center School for Nurse Anesthetists, Inc. All courses are taught by YSU graduate faculty. Humility of Mary Health Partners supports the program by providing clinical and other resources at St. Elizabeth Health Center. Students gain experience in the use of many anesthetic agents and techniques and are supervised by Certified Registered Nurse Anesthetists (CRNAs) and Staff Anesthesiologists from Bel-Park Anesthesia Associates, Inc. Upon successful completion of the degree program, graduates are eligible to sit for the National Certification Exam by the Council on Certification of Nurse Anesthetists. Once certified, CRNAs must apply for a Certificate of Authority to practice as an Advanced Practice Nurse in the State of Ohio or abide by the laws of the state in which they intend to practice.

Acceptance into the YSU Master of Science in Nursing program is contingent upon acceptance into the St. Elizabeth Health Center School for Nurse Anesthetists, Inc. For additional admission information specific to the Nurse Anesthetist option please contact Beverly A. Rodgers:

Beverly A. Rodgers, CRNA, M.Ed.
 Program Director
 St. Elizabeth Health Center School for Nurse Anesthetists, Inc.
 (330) 480-3444
 brodgers@belpark.net

FACULTY RESEARCH INTERESTS

Louise Aurilio, Ph.D., RN-BC, NE-BC, Professor, M.S.N. Program Director
 Women's health; nursing administration; quality of life; nursing education; high risk pregnancy; maternal/child health; chronic illness risk

Patricia Hoyson, Ph.D., R.N., C.N.S., C.D.E., Professor, Nursing Department Chair
 Diabetes; critical thinking; patient education; nursing education

Susan A. Lisko, D.N.P., Associate Professor
 Critical thinking; nursing simulation; medical-surgical nursing

Valerie O'Dell, D.N.P., Associate Professor
 Maternal-child nursing; simulation scenario development; nursing education

Pamela M. Schuster, Ph.D., R.N., Professor
 Clinical nursing research; research in nursing education

Kimberly A. Serroka, D.N.P., Associate Professor
 Nursing clinical simulation; nursing preceptorship; pediatrics

Nancy H. Wagner, D.N.P., CNE, Associate Professor
 Pediatrics; educational research/simulation; transcultural nursing

ADMISSION REQUIREMENTS

All nursing applicants must meet the following requirements:

- Regular admission requires an unrecalculated cumulative undergraduate grade point average of at least 3.0 (on a 4.0 scale)
- Satisfactory completion of undergraduate courses in health assessment, statistics, and research methods
- Hold a B.S.N. degree from an accredited program
- Current Ohio Registered Nurse licensure or eligibility for Ohio licensure as a registered nurse (RN)
- Current CPR certification, current immunizations, drug screening, and criminal background checks are to be maintained while in the program.
- All nurse anesthetist applicants must submit an official report of Graduate Record Examination (General Test) scores completed within the past five years.
- Applicants with an unrecalculated cumulative grade point average of less than 3.0 (on a 4.0 scale) must submit an official report of Graduate Record Examination (General Test) scores completed within the past five years.
- Successful/satisfactory interview is required for all MSN nursing applicants meeting minimum requirements.
- Students not meeting regular admission requirements may be provisionally admitted. See the *Graduate Bulletin* under Provisional Admission.

Applicants must submit the following items to The Office of Admissions:

- Official transcripts from each college or institution of higher learning attended (other than YSU)
- Three satisfactory letters of reference: one each from a faculty member, an employer, and a colleague

- Letter of intent (300 words maximum) stating one's professional career goals and how graduate education in nursing will help fulfill said goals
- Resume or curriculum vita (including education, work and/or research experience, publications, certifications, licenses, grants, professional affiliations, awards, honors, presentations, and/or courses taught)

Application deadline for Family Nurse Practitioner (FNP) option: February 1. The FNP option is a cohort-based program (beginning each fall).

Degree Requirements

The areas of coursework in the M.S.N. program include core courses (15 semester hours), and one of the following options: the clinical nurse specialist—chronic illness care option (27 semester hours), clinical nurse specialist-adult-gerontology care option (30 semester hours), family nurse practitioner option (37 s.h.), the school nurse option (27 semester hours), the nurse anesthetist option (34 semester hours), or the nurse education option (27 semester hours).

The breakdown of these course requirements is as follows:

Core Courses		16 s.h.
NURS 6900	Professional Issues in Nursing	3 s.h.
NURS 6901	Nursing Science and Research I	3 s.h.
NURS 6902	Advanced Pathophysiology	3 s.h.
NURS 6906	Advanced Statistics	3 s.h.
NURS 7002	Nursing Science and Research II	2 s.h.
NURS 7005	Research Practicum	2 s.h.
Clinical Nurse Specialist – Chronic Illness Care		27 s.h.
NURS 6903	Advanced Pharmacology	3 s.h.
NURS 6904	Advanced Health Assessment	3 s.h.
NURS 6905	Health Assessment Practicum	5 s.h.
NURS 7000	Adult and Gerontology Care	3 s.h.
NURS 7001	Adult–Gerontology Care Practicum	5 s.h.
NURS 7003	Role Development	3 s.h.
NURS 7004	Role Development Practicum	5 s.h.
Adult-Gerontology Clinical Nurse Specialist		30 s.h.
NURS 6903	Advanced Pharmacology	3 s.h.
NURS 6904	Advanced Health Assessment	3 s.h.
NURS 6905	Health Assessment Practicum	5 s.h.
NURS 6998	Anatomy and Physiology of Aging	3 s.h.
NURS 7000	Adult and Gerontology Care	3 s.h.
NURS 7001	Adult-Gerontology Care Practicum	5 s.h.
NURS 7003	Role Development	3 s.h.
NURS 7004	Role Development Practicum	5 s.h.
Family Nurse Practitioner (FNP) Option		37 s.h.
NURS 6903	Advanced Pharmacology	3 s.h.
NURS 6904	Advanced Health Assessment	3 s.h.
NURS 7003	Role Development	3 s.h.
NURS 7004	Role Development Practicum	5 s.h.
NURS 7024	Family and Women's Health	3 s.h.
NURS 7025	Family and Women's Health Practicum	4 s.h.
NURS 7026	Infant, Child, and Adolescent Health	3 s.h.
NURS 7027	Infant, Child, and Adolescent Health Practicum	5 s.h.
NURS 7028	Adult and Older Adult Health	3 s.h.
NURS 7029	Adult and Older Adult Health Practicum	5 s.h.

School Nurse Option		27 s.h.
FOUN 6902	Sociological Bases of Education	3 s.h.
SPED 5802	Education of Exceptional Children	3 s.h.
NURS 6907	Health Assessment of School Children	3 s.h.
NURS 6908	Health Assessment of School Children Practicum	2 s.h.
NURS 7008	Schools and Health	3 s.h.
NURS 7014	Health Management in Schools	3 s.h.
NURS 7015	Health Management in Schools Practicum	2 s.h.
NURS 7016	School Nurse Role	3 s.h.
NURS 7017	School Nurse Role Practicum	5 s.h.
Nurse Anesthetist Option		34 s.h.
NURS 6910	Professional Aspects of Nurse Anesthesia	3 s.h.
NURS 6911	Pharmacology I	3 s.h.
NURS 6912	Pharmacology II	3 s.h.
NURS 6913	Chemistry and Medical Physics in Anesthesia Practice	3 s.h.
NURS 6914	Human Anatomy, Physiology, and Pathophysiology I	3 s.h.
NURS 6916	Anesthesia Principles I	2 s.h.
NURS 7010	Human Anatomy, Physiology, and Pathophysiology II	3 s.h.
NURS 7011	Anesthesia Principles II	6 s.h.
NURS 7012	Anesthesia Principles III	8 s.h.

The total semester hours required for the nurse anesthetist option are greater than the usual hour requirements for other master's programs at YSU. The increased number of hours is necessary in order to meet the COA requirements for a nurse anesthesia program.

Nurse Education Option		27 s.h.
NURS 6904	Advanced Health Assessment	3 s.h.
NURS 7018	Nursing Curriculum Design	3 s.h.
NURS 7019	Nursing Instructional Methods	3 s.h.
NURS 7020	Evaluation in Nursing Education	3 s.h.
NURS 7021	Nurse Educator Role	4 s.h.
NURS 7022	Nursing Educator Role Practicum	5 s.h.
Cognates: Education Technology		6 s.h.
Select two courses from the following list:		
EDTC 6905	Technology in Instructional Settings	3 s.h.
EDTC 6920	Instructional Design	3 s.h.
EDTC 6930	Instructional Multimedia Authoring	3 s.h.
EDTC 6940	Distance Education and On-line Information Dissemination	3 s.h.

SCHOOL NURSE LICENSURE

Youngstown State University offers a series of courses that meet the Ohio Department of Education's requirements for school nurse licensure. The School Nurse Licensure Program is designed to build upon an undergraduate education and to prepare the school nurse to be an effective member of the professional school community. This program requires 20-22 credit hours (semester system) with courses taught by both the Nursing program and the College of Education. Included in the School Nurse Licensure Program are 300 practicum hours (5 s.h. credit) in a school setting under the supervision of a licensed school nurse preceptor and a university faculty member. This practicum may be taken in increments to accommodate the working student. Opportunities for practicum hours to be waived (up to 200 hours) are considered on an individual basis for nurses with school nurse experience. All courses are either web-based or meet one evening per week.

Students seeking admission into the School Nurse Licensure Program must have a baccalaureate degree with course work in growth and development, psychology, sociology, and community health. Students must be licensed to practice nursing in Ohio, or eligible to be licensed (graduate of an approved school of nursing). The Ohio RN license is necessary prior to practicum placement.

For further information about School Nurse Licensure, contact Dr. Louise Aurilio, Department of Nursing, at (330) 941-1791 or laaurilio@ysu.edu.

NURSE EDUCATION CERTIFICATE

Youngstown State University offers A nurse education certificate designed to prepare post-baccalaureate nurses with professional development opportunities to enhance and refine skills by providing education that prepares them for nurse educator roles in academic and service settings. At the completion of this certificate program, students will be eligible to sit for the National League for Nursing, Nurse Educator Certification examination.

See the Graduate Certificates section of this Bulletin for additional information about the Nurse Education Certificate, or contact Dr. Louise Aurilio, Department of Nursing, at (330) 941-1791 or laaurilio@ysu.edu.

MASTER OF SOCIAL WORK

DEPARTMENT CHAIR

Dennis Morawski
3034 Cushwa Hall
(330) 941-3774
dpmorawski@ysu.edu

PROGRAM DESCRIPTION

The Master of Social Work program prepares graduates for advanced social work practice with disenfranchised clients. The organizing framework for the M.S.W. program is the strengths-based empowerment approach. This approach emphasizes helping individuals, families, and communities recognize and utilize their capacities; gain awareness of available options; understand the barriers and obstacles they may face; reinforce their hopes and aspirations; and integrate internal and external resources to improve the quality of their lives. The M.S.W. program focuses on advanced direct practice with individuals, families, groups, and communities.

A critical purpose of the M.S.W. program is to develop competent, ethical, and effective professionals capable of utilizing advanced knowledge, skills, and values to promote social justice in the delivery of social services within a diverse society. The integration social work knowledge, values, and skills are achieved through both academic coursework and field placement experiences.

ACCREDITATION

The program is fully accredited by the Council on Social Work Education.

FACULTY RESEARCH INTERESTS

Shirley Keller, Ph.D., Professor
Evaluation outcome measurements; program evaluation; health care issues

Dennis Morawski, Ph.D., Associate Professor
Community mental health; welfare reform; group work; volunteerism

Thelma Silver, Ph.D., Professor
Community mental health; mental health recovery; crisis intervention; group work

ADMISSION REQUIREMENTS

Applicants to the M.S.W. program are encouraged to review the admission criteria listed below, as they exceed the minimum standards established by the School of Graduate Studies and Research. Meeting minimum criteria does not guarantee admission. Applicants are evaluated by the Social Work Department's Graduate Admissions Committee to ensure that qualifications are evaluated in a manner consistent with the M.S.W. program's requirements. Application packets are available through the Department of Social Work or The Office of Admissions. Students who are admitted may enter the program only during the fall semester of each academic year.

Admission to the M.S.W. program is based on the following criteria that allow evaluation of the student's potential to succeed in graduate-level social work education, as well as an assessment of their ability to engage in ethical and competent social work practice in a diverse society.

Regular Admission

In addition to the minimum School of Graduate Studies and Research admissions requirements, all applicants must meet the following requirements for regular admission to the Master of Social Work program:

- an undergraduate degree, preferably in a social science, from an accredited college or university;
- an unrecalculated cumulative grade point average of 3.0 or above (on a 4.0 scale) in all undergraduate coursework;

- work or volunteer experience related to preparation for professional social work practice;
- three letters of recommendation completed on official forms. Recommendations should include one academic source, one professional source, and one additional source from either of the aforementioned;
- a professional statement reflecting how completion of the M.S.W. will impact upon the student's professional goals and objectives; and
- an optional personal interview and/or additional information as requested by the program's admission committee.
- For non-B.S.W. applicants, one approved social work course OR one course each in the following is required: psychology, sociology, or political science.

Provisional Admission

Applicants with an unrecalculated undergraduate cumulative grade point average of 2.7 to 2.99 (on a 4.0 scale) may be admitted provisionally. Applicants with an unrecalculated undergraduate cumulative grade point average of less than 3.0 (on a 4.0 scale) must achieve a score at the 30th percentile or above on the Miller's Analogy Test (MAT), or achieve a score at the 30th percentile or above on the verbal and analytical writing sections of the Graduate Record Examination general test (GRE). Applicants with unrecalculated undergraduate cumulative grade point averages of 3.0 or better (on a 4.0 scale) are not required to submit MAT or GRE scores.

Advanced Standing program (ASP) Admission

The Advanced Standing program is accelerated for highly qualified graduates of the Council on Social Work Education (C.W.S.E.) accredited Bachelor of Social Work (B.S.W.) programs. The Advanced Standing Program permits students to complete all requirements of the M.S.W. degree in 36 semester hours. The regular program is completed in 60 semester hours.

Admission to the ASP is granted to applicants with superior academic and professional social work qualifications.

Applicants seeking admission to the Advanced Standing program must meet all admission requirements for the Master of Social Work program in addition to the following:

- possess a Bachelor of Social Work degree or its equivalent from a C.W.S.E. accredited program within six years prior to enrollment;
- have achieved an unrecalculated cumulative grade point average of at least a 3.25 (on a 4.0 scale) in all undergraduate coursework;
- have achieved A's and B's in all junior and senior level social work courses; and
- have achieved a minimum of one year full-time employment experience in a social services setting prior to enrollment

Individuals who wish to take coursework for the purpose of continuing education and/or expansion of professional competencies should contact the Department of Social Work. The Social Work Department chairperson or his or her designee must approve any graduate social work courses taken by students not admitted to the M.S.W. program.

Qualified students who have been convicted of misdemeanor or felony offenses may be admitted to the program. However, field internship opportunities may be restricted due to agency prohibitions pertaining to the engagement of students in agency work in possession of criminal records. Additionally, students should be aware that state licensure in social work may not be possible for individuals with past convictions. Students with convictions are advised to become informed of requirements pertaining to social work licensure and possible avenues of appeal as they consider their enrollment in the MSW program and the limitations prior convictions may impose on their ability to practice the profession of social work.

DEGREE REQUIREMENTS

Sixty semester hours of coursework are required for completion of the Master of Social Work degree. The program may be completed in two years, three years, or five years. Foundation social work content is comprised of eight courses and a field practicum with an emphasis on the following areas: social work values and ethics, diversity, populations at risk, social and economic justice, human behavior in the social environment, social welfare policy and services, social work practice, research, and business skills for social workers. The foundation field practicum is designed to provide the student with learning experiences that promote and integrate the achievement of foundation objectives. The foundation field practicum is taken in two consecutive semesters for a total of six credit hours per year. Students engage in fieldwork activities for two days a week over two semesters of 30 weeks (480 hours).

Advanced content areas consist of an additional eight advanced courses and an advanced field practicum with an emphasis on knowledge, skills, and values for advanced direct social work practice. Advanced-level students' field placement activities occur in three days for two semester periods totaling 30 weeks (740 hours).

Students in the Master of Social Work program must maintain all School of Graduate Studies and Research retention requirements. In addition, students must meet standards defined by the Master of Social Work program that are included in the Youngstown State University Master of Social Work Program, Student Handbook.

COURSE OUTLINE: TWO-YEAR FULL-TIME OPTION

First Year—First Semester

SCWK 6900	Human Behavior and the Social Environment I	3 s.h.
SCWK 6901	Oppressed Populations	3 s.h.
SCWK 6902	Social Welfare Policy and Program Analysis	3 s.h.
SCWK 6903	Social Work Foundation Practice I	3 s.h.
SCWK 6904	Field Education I	3 s.h.

First Year—Second Semester

SCWK 6905	Human Behavior and the Social Environment II	3 s.h.
SCWK 6906	Business Skills for Social Workers	3 s.h.
SCWK 6907	Social Work Foundation Practice II	3 s.h.
SCWK 6908	Research	3 s.h.
SCWK 6909	Field Education II	3 s.h.

Second Year—First Semester

SCWK 7000	Advanced Direct Practice I	3 s.h.
SCWK 7002	Adversities and Resiliencies	3 s.h.
SCWK 7004	Practice Evaluation	3 s.h.
SCWK 7008	Social Work in Mental Health	3 s.h.
SCWK 7009	Field Education III	3 s.h.

Second Year—Second Semester

SCWK 7003	Theory and Practice of Supervision	3 s.h.
SCWK 7010	Advanced Direct Practice II	3 s.h.
SCWK 7012	Field Education IV	3 s.h.
SCWK 7013	Capstone	3 s.h.
	Approved elective*	3 s.h.

COURSE OUTLINE: THREE-YEAR FULL-TIME OPTION

* may be taken any semester

First Year—First Semester

SCWK 6900	Human Behavior and the Social Environment I	3 s.h.
SCWK 6901	Oppressed Populations	3 s.h.
SCWK 6902	Social Welfare Policy and Program Analysis	3 s.h.

First Year—Second Semester

SCWK 6905	Human Behavior and the Social Environment II	3 s.h.
SCWK 6906	Business Skills for Social Workers	3 s.h.
SCWK 6908	Research	3 s.h.

Second Year—First Semester

SCWK 6903	Social Work Foundation Practice I	3 s.h.
SCWK 6904	Field Education I	3 s.h.
SCWK 7002	Adversities and Resiliencies	3 s.h.

Second Year—Second Semester

SCWK 6907	Social Work Foundation Practice II	3 s.h.
SCWK 6909	Field Education II	3 s.h.
SCWK 7003	Theory and Practice of Supervision	3 s.h.

Third Year—First Semester

SCWK 7000	Advanced Direct Practice I	3 s.h.
SCWK 7004	Practice Evaluation	3 s.h.
SCWK 7008	Social Work in Mental Health Settings **	3 s.h.
SCWK 7009	Field Education III	3 s.h.

Third Year—Second Semester

SCWK 7010	Advanced Direct Practice II	3 s.h.
SCWK 7012	Field Education IV	3 s.h.
SCWK 7013	Capstone	3 s.h.

COURSE OUTLINE: FOUR-YEAR PART-TIME OPTION**First Year—First Semester**

SCWK 6900	Human Behavior and the Social Environment I	3 s.h.
SCWK 6901	Oppression and Cultural Competence	3 s.h.

First Year—Second Semester

SCWK 6905	Human Behavior and the Social Environment II	3 s.h.
	Approved Elective	3 s.h.

Second Year—First Semester

SCWK 6902	Social Welfare Policy and Program Analysis	3 s.h.
SCWK 7002	Adversities and Resiliencies	3 s.h.

Second Year—Second Semester

** may be taken any semester

SCWK 6906	Business Skills for Social Workers	3 s.h.
SCWK 6908	Research	3 s.h.

Third Year—First Semester

SCWK 6903	Social Work Foundation Practice I	3 s.h.
SCWK 7004	Practice Evaluation	3 s.h.
SCWK 6904	Field Education I	3 s.h.

Third Year—Second Semester

SCWK 6907	Social Work Foundation Practice II	3 s.h.
SCWK 7003	Theory and Practice of Supervision	3 s.h.
SCWK 6906	Field Education II	3 s.h.

Fourth Year—First Semester

SCWK 7000	Advanced Direct Practice I	3 s.h.
SCWK 7008	Social Work in Mental Health Settings	3 s.h.
SCWK 7009	Field Education III	3 s.h.

Fourth Year—Second Semester

SCWK 7010	Advanced Direct Practice II	3 s.h.
SCWK 7012	Field Education IV	3 s.h.
SCWK 7013	Capstone	3 s.h.
Total		60 s.h.

COURSE OUTLINE: ADVANCED STANDING PROGRAM, FULL-TIME OPTION**Fall Semester**

SCWK 6908	Research	3 s.h.
SCWK 6909	Field Education II	3 s.h.
SCWK 7000	Advanced Direct Practice I	3 s.h.
SCWK 7002	Adversities and Resiliencies	3 s.h.
	Approved Elective	3 s.h.

Spring Semester

SCWK 6906	Business Skills for Social Workers	3 s.h.
SCWK 7003	Theory and Practice of Supervision	3 s.h.
SCWK 7004	Practice Evaluation	3 s.h.
SCWK 7009	Field Education III	3 s.h.
SCWK 7010	Advanced Direct Practice II	3 s.h.

Summer Semester

SCWK 7012	Field Education IV	3 s.h.
SCWK 7013	Capstone	3 s.h.

GRADUATE CERTIFICATES

AUTISM SPECTRUM AND RELATED DISABILITIES DEPARTMENT OF COUNSELING AND SPECIAL EDUCATION

Leah Gongola, Certificate Director
3307 Beeghly Hall
(330) 941-3057
lchgongola@ysu.edu

CERTIFICATE DESCRIPTION

This five-course certificate (19 semester hours) is designed to meet the needs of students in educationally related fields, such as psychology, nursing, school counseling, and speech and language therapy. Students in related fields, such as speech and language pathology, psychology, etc., will receive this certificate upon the completion of the certificate requirements. During a summer internship, students seeking this graduate certificate are required to demonstrate appropriate data-based assessment, teaching and learning standards of knowledge, skills, and dispositions as specified by the National Council for Accreditation of Teacher Education and the Council for Exceptional Children. Frequency of course offerings allows most students to earn the certificate within two semesters and two summer sessions.

Applicants for this graduate certificate must meet the requirements for admission to the School of Graduate Studies and Research at YSU.

CERTIFICATE REQUIREMENTS

Students must complete the following five courses:

SPED 5810	Introduction to Sign Language	3 s.h.
SPED 6914	Behavior Management for Educators	3 s.h.
SPED 6996	Teaching Strategies/Autism	4 s.h.
SPED 6998	Alternative and Augmentative Communication (AAC) Strategies	3 s.h.
SPED 6999	Field Experiences Autism/Related Disorders	6 s.h.

ENTERPRISE RESOURCE PLANNING

DEPARTMENT OF MANAGEMENT

Ram Kasuganti, Chair
 3337 Williamson Hall
 (330) 941-3070
 rrkasuganti@ysu.edu

CERTIFICATE DESCRIPTION

This four-course certificate (11 semester hours) is designed to meet the needs of current M.B.A. students and M.B.A. graduates interested in enhancing their effectiveness in organizations using Enterprise Resource Planning software, which is increasingly prevalent in today's business organizations. Students will have intensive hands-on experience with SAP-ERP software. The program covers topics such as ERP software evaluation and selection, materials management, configuration, and supply chain management. The overall goal of this certificate is to enable students (both current and future managers) in all areas of a business organization to be effective users of integrated ERP software and to be effective participants in managing the evaluation, installation, and use of ERP software.

Applicants for this graduate certificate must meet the requirements for admission to the School of Graduate Studies and Research at YSU.

CERTIFICATE REQUIREMENTS

Students must complete the following four courses:

MGT 6917	Information Systems for Management	2 s.h.
MGT 6921	Operations Management	3 s.h.
MGT 6945	Business Process Integration (BPI)	3 s.h.
MGT 6946	Supply Chain Management	3 s.h.

Non-business graduate students and area professionals with non-business degrees must complete 8 s.h. of M.B.A. foundations courses (MGT 6900, MKTG 6900, and ACCT/FIN 6900) in addition to the 11 s.h. required for the certificate (total of 19 s.h.).

ENVIRONMENTAL STUDIES
DEPARTMENT OF GEOLOGICAL AND ENVIRONMENTAL SCIENCES

Jeffrey C. Dick, Chair
2119 Moser Hall
(330) 941-1756
jcdick@ysu.edu

CERTIFICATE DESCRIPTION

This sequence of 15 semester hours is designed to meet the needs of students and working professionals preparing for leadership roles in environmental science or management. The graduate certificate is focused in two tracks, with specialization in risk management and industrial/institutional management. This program is especially useful for careers with regulatory agencies, industries seeking compliance with environmental regulations or focusing on environmental management systems, research facilities, and consulting firms providing state-of-the-art assessment, management, and remediation. The program will also prepare the student to continue graduate studies leading to higher degrees.

Applicants for this graduate certificate must meet the requirements for admission to the School of Graduate Studies and Research at YSU.

CERTIFICATE REQUIREMENTS

To receive a certificate in environmental studies, all students must complete 15 semester hours of credit from coursework listed below. A grade point average of 3.0 or above must be achieved for all 15 semester hours of credit.

Core Courses (Taken by certificate candidates in both tracks)	6 s.h.
ENST 6900 Advanced Environmental Studies	3 s.h.
ENST 6901 Sources of Contamination	3 s.h.

Students may choose the risk management or the industrial/institutional management track.

Risk Management Track	9 s.h.
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Both:		
ENST 6930	Risk Management	3 s.h.
ENST 6931	Ecological Risk Assessment	3 s.h.
Choose:		
ALHT 5807	Epidemiology	3 s.h.
BIOL 5803	Population and Community Ecology	3 s.h.
BIOL 5804	Aquatic Biology	3 s.h.
BIOL 5806	Field Ecology	3 s.h.
BIOL 6996	Environmental Biology Topics	1-3 s.h.
CHEM 5801	Elements of Physical Chemistry	3 s.h.
CHEM 6941	Advanced Organic Chemistry I	2 s.h.
CHEM 6944	Natural Products	2 s.h.
ENST 5830	Risk Assessment	3 s.h.

Industrial/Institutional Management Track	9 s.h.
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Both:		
ENST 6920	Environmental Compliance	3 s.h.
ENST 6921	Industry/Institutional Management for the Environmental Professional	3 s.h.
Choose:		
CEEN 6968	Industrial Waste Treatment	3 s.h.
ENGR 6925	Applied Environmental Management	3 s.h.
ENST 5800	Environmental Impact Assessment	3 s.h.

ENST 5830	Risk Assessment	3 s.h.
ENST 6910	Environmental Management Systems Standards (ISO 14001)	1 s.h.
ENST 6930	Risk Management	3 s.h.
MGT 6900	The Foundation of Management	2 s.h.
MGT 6925	Quality Management	3 s.h.

Undergraduate courses will not qualify for the certificate, but the following may be suggested for preparation for courses above:

AHLT 4831	Introduction to Industrial Hygiene	3 s.h.
CHEM3764	Chemical Toxicology	2 s.h.
CEEN 4837	Environmental Engineering II	3 s.h.

HEALTH CARE MANAGEMENT
DEPARTMENT OF HEALTH AND HUMAN SERVICES

Joseph Lyons
1086 Cushwa Hall
(330) 941-3658
jplyons@ysu.edu

CERTIFICATE DESCRIPTION

The health care management graduate certificate is a collaborative program between The Bitonte College of Health and Human Services and the Warren P. Williamson, Jr. College of Business Administration. The sequence of 18 semester hours is designed to meet the needs of students and working professionals preparing for leadership roles in health care management. The certificate consists of six semester hours of business tool courses and twelve semester hours of health care management courses.

CERTIFICATE REQUIREMENTS

Applicants interested in the healthcare management certificate must apply to and be accepted into the Master of Health and Human Services degree program. Students in the healthcare management certificate track are not obligated to complete the Master of Health and Human Services degree.

CERTIFICATE REQUIREMENTS

Students must complete six semester hours from the following:

ECON 6900	Statistical Problems	3 s.h.
ECON 6901	Basic Economic Analysis	3 s.h.
FIN 6900	Financial Accounting and Finance for Decision Making	4 s.h.
MGT 6900	Foundations of Management	2 s.h.
MGT 6917	Information Systems for Management	2 s.h.
MKTG 6900	Foundations of Marketing	2 s.h.

Students must complete nine semester hours from the following:

HHS 6918	Program Planning and Evaluation	2 s.h.
HHS 6922	Planning and Fiscal Management	4 s.h.
HHS 6959	Foundation and Planning	3 s.h.
HHS 6960	Implementation and Evaluation	3 s.h.
MGT 6961	Optimizing Human Performance in Organizations	3 s.h.

Students must complete three semester hours from the following:

HHS 6949	Community Health Practices	3 s.h.
HHS 6953	Health Behavior	3 s.h.
HHS 6958	Health Services Issues	3 s.h.

Total hours required for certificate 18 s.h.

LITERATURE FOR CHILDREN AND YOUNG ADULTS

DEPARTMENT OF ENGLISH

Steven Brown, Graduate Director
 242 DeBartolo Hall
 (330) 941-1654
 srbrown02@ysu.edu

CERTIFICATE DESCRIPTION

This four-course certificate (12 semester hours total) is designed to increase students' knowledge of children's and young adult literature while helping them achieve certain career goals. For students who intend to pursue doctoral work, concentrated study in children's and young adult literature will help to prepare them to specialize in these fields at the doctoral level. For those who teach at the elementary, middle school, and high school levels, such study will enhance their teaching careers by increasing their knowledge of literature for young people and helping satisfy certain professional development requirements of local school districts. For prospective or practicing librarians, the certificate will provide further expertise in establishing and maintaining library collections for young readers. Depending upon course rotation, students may finish the certificate within one year.

CERTIFICATE REQUIREMENTS

Students must complete the following three courses:

ENGL 6918	Studies in Children's Literature	3 s.h.
ENGL 6919	Studies in Young Adult Literature	3 s.h.
ENGL 6927	Historical Survey of Literature for Young People	3 s.h.

Students must complete one course from the following, if the topic relates to children's or young adult literature, with permission of the certificate director:

ENGL 6906	Teaching of Literature	3 s.h.
ENGL 6918*	Studies in Children's Literature	3 s.h.
ENGL 6919*	Studies in Young Adult Literature	3 s.h.
ENGL 6975	English Education Seminar	3 s.h.
ENGL 6976	Studies in English Education	3 s.h.
ENGL 6990	Special Topics	3 s.h.

Or students may elect to take one course in a related discipline (e.g., psychology, history, education, art) when content is appropriate, with permission of the certificate director.

To be eligible for the graduate certificate in literature for children and young adults, students need not have an undergraduate degree in English, but they must have a B.A. or B.S. degree and meet the requirements for admission to the School of Graduate Studies and Research at YSU. Certificate courses must be completed with a GPA of at least 3.0.

* May be repeated with a different topic.

NURSE EDUCATION
DEPARTMENT OF NURSING

Louise Aurilio, Certificate Director
3067 Cushwa Hall
(330) 941-1791
laaurilio@ysu.edu

CERTIFICATE DESCRIPTION

The five-course (16 – 18 s.h.) nurse education certificate is designed to prepare the post-masters prepared nurse with opportunities to further their education and develop and refine new skills that will enhance their professional development as nurse educators.

The certificate nurse educator program is not a degree program. This program is designed to enhance the professional development of registered nurses by providing education and training that prepares them for nurse educator roles and teaching positions in academic and service settings. At the completion of this certificate program, the student would be eligible to sit for the National League for Nursing Certified Nurse Educator examination.

ADMISSION REQUIREMENTS

- MSN degree in Nursing from an accredited college/university
- Official transcript from each college or university attended (except YSU)
- Overall grade point average of 3.0 in graduate work
- Current Ohio Registered Nurse licensure or eligibility for Ohio licensure as a registered nurse
- Current CPR certification and current immunization
- Personal statement describing career goals
- Three letters of reference: one each from a faculty member, an employer, and a colleague
- Computer competency that includes word processing skills and the ability to communicate electronically
- Letter of intent (300 words) maximum stating one's professional career goals and how graduate education in nursing will help fulfill said goals

CURRICULUM

The Nurse Education Certificate Program consists of 16-18 semester hours. The curriculum is designed to prepare students to implement the nurse educator role in a variety of settings. Students will develop competencies in program and curriculum design, implementation, instructional methods, and evaluation methods for diverse populations in a variety of settings.

Students are provided an opportunity to synthesize learning and function in the roles of a nurse educator by completing a required capstone practicum of 3-5 semester hours.

REQUIRED COURSES

NURS 7018	Nursing Curriculum Design.	3 s.h.
NURS 7019	Nursing Instructional Methods	3 s.h.
NURS 7020	Evaluation in Nursing Education.	3 s.h.
NURS 7021	Nurse Educator Role.	4 s.h.
NURS 7022	Nursing Educator Role Practicum.	3-5 s.h.
Total semester hours required for certificate		16-18 s.h.

PROFESSIONAL WRITING AND EDITING

DEPARTMENT OF ENGLISH

Steven Brown, Graduate Director
242 DeBartolo Hall
(330) 941-1654
srbrown02@ysu.edu

CERTIFICATE DESCRIPTION

This four-course certificate (12 semester hours) is designed to meet the needs of students preparing for careers as technical writers and editors; company news and information directors; or grant and proposal writers for schools, hospitals, nonprofit organizations, and fine and performing arts groups. Frequency of course offerings allows most students to finish the certificate within four semesters.

CERTIFICATE REQUIREMENTS

Students must complete the following four courses:

ENGL 6943	Technical Communication	3 s.h.
ENGL 6944	Document Design and Production	3 s.h.
ENGL 6953	Publications Issues and Management	3 s.h.
ENGL 6992	Professional Communication	3 s.h.

Although ENGL 6998 Professional Writing Internship does not count toward the 12 semester hour requirement for the certificate, students are strongly urged to take this course or seek equivalent professional experience. To be eligible for the professional writing and editing graduate certificate, students need not have an undergraduate degree in English, but they must have a B.A. or B.S. degree and meet the requirements for admission to the School of Graduate Studies and Research at YSU.

TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TESOL)
DEPARTMENT OF ENGLISH

Steven Brown, Graduate Director
242 DeBartolo Hall
(330) 941-1654
srbrown02@ysu.edu

CERTIFICATE DESCRIPTION

This four-course sequence (12 semester hours) is valuable for anyone who wishes to gain more knowledge of second/foreign language learning. It is also useful as a springboard to further graduate work in the field. It is designed to meet the needs of K-12 language arts instructors who want more information but not necessarily state endorsement; writing instructors at two-year colleges; and students who would like to enter doctorate programs in applied linguistics, English as a second language, or second language acquisition. Students gain an understanding of issues of language acquisition and language pedagogy.

CERTIFICATE REQUIREMENTS

Students who have not taken an introductory linguistics course at the undergraduate level will be expected to do extra reading to get an understanding of basic terms. The department's advanced linguistics course (ENGL 6955) may also serve to provide background. Students should see an advisor for the TESOL certificate program.

Students must complete the following four courses:

ENGL 6950	Sociolinguistics	3 s.h.
ENGL 6951	Language Acquisition	3 s.h.
ENGL 6956	TESOL Methods	3 s.h.
ENGL 6958	English Grammar	3 s.h.

To be eligible for the graduate certificate in the teaching of English to speakers of other languages, students need not have an undergraduate degree in English or linguistics but must have a B.A. or B.S. and meet requirements for admission to the School of Graduate Studies and Research at YSU.

TEACHING OF WRITING
DEPARTMENT OF ENGLISH

Steven Brown, Graduate Director
242 DeBartolo Hall
(330) 941-1654
srbrown02@ysu.edu

CERTIFICATE DESCRIPTION

This four-course certificate (12 semester hours) is valuable as an enhancement for employment as a writing instructor and also as a springboard to further graduate work in the field. It is designed to meet the needs of K-12 language arts teachers; writing instructors at two-year colleges; and YSU graduate students who would like to enter doctorate programs in rhetoric and composition. Students gain understanding of issues in the field of rhetoric and composition, such as current writing pedagogy, assessment of writing, language theory, language varieties, multicultural literacies, electronic literacies, and teaching strategies incorporating electronic media. Frequency of course offerings allows most students to finish the certificate in two to three semesters.

CERTIFICATE REQUIREMENTS

Students must complete four courses chosen from the following three groups:

Required

ENGL 6907	Teaching of Writing	3 s.h.
ENGL 6993	Discourse Theory	3 s.h.

One from among the following courses:

ENGL 6901	Methods of Composition Research	3 s.h.
ENGL 6921	Advising Student Publications	3 s.h.
ENGL 6976	Studies in English Education (if topic applies to rhetoric and composition)	3 s.h.
ENGL 6990	Special Topics (if topic applies to rhetoric and composition)	3 s.h.

One from among the following courses:

ENGL 6950	Sociolinguistics	3 s.h.
ENGL 6958	English Grammar	3 s.h.
ENGL 6960	Studies in Linguistics (if topic applies to rhetoric and composition)	3 s.h.

To be eligible for the graduate certificate in teaching of writing, students need not have an undergraduate degree in English but must have a B.A. or B.S. degree and meet requirements for admission to the School of Graduate Studies and Research at YSU.

GRADUATE COURSES

ACCOUNTING AND FINANCE

Raymond Shaffer, Chair
3382 Williamson Hall
(330) 941-3196
rjshaffer@ysu.edu

ACCOUNTING

5814 Federal Taxation II. (3 s.h.)

5820 Government and Funds Accounting. (3 s.h.)

6902 Management Accounting Systems. Study of the managerial aspects of accounting. Emphasis on the preparation and interpretation of accounting reports of an organization for its internal users, such as its president and managers. Uses of relevant and timely accounting information in decision making, planning and control, capital budgeting, product costing and pricing, and transfer pricing are discussed in detail. Applications of quantitative techniques and behavioral aspects of accounting are reviewed. Not available for credit to M.B.A. students in the accounting concentration. Prereq.: Completion of all level I M.B.A. coursework. 3 s.h.

6905 Business Tax Planning and Research I. A study of the tax planning process and how it relates to employee and employer matters including, but not limited to, the alternative minimum tax, personal holding companies, unreasonable accumulations of earnings, depreciation recapture, retirement structuring, tax credits, taxation of international persons, and estate tax issues, including both lifetime and testamentary transfers. Paper and electronic research media will be utilized along with various formats for presentation of results. Prereq.: ACCT 4814 Federal Taxation II or equivalent. 3 s.h.

6908 Auditing Theory and Practice. A study of auditing standards and procedures, use of statistical and other quantitative techniques, and auditing electronic data processing installations. Other topics include practice before the Securities and Exchange Commission, special reporting problems, current developments in auditing, professional ethics and responsibilities, and extensions of the attest function. Prereq.: ACCT 4808 Auditing or equivalent. 3 s.h.

6909 Management Information and Control Systems. A study of the formalized set of interrelated methods, procedures, and equipment utilized in developing, processing, storing, and reporting business financial and statistical information. The major emphasis is on computerized systems, although some attention is also given to manual operations and/or subsystems. Prereq.: MGMT 6900 and FIN 6900 or equivalent. 3 s.h.

6910 Business Internship. Provides graduate students the opportunity to relate theory to practice through on-the-job work experience with a participating organization. The internship will serve as an elective M.B.A. course. Prereq.: Completion of level I M.B.A. coursework and six semester hours of level II M.B.A. coursework. 1-3 s.h.

6912 Advanced Management and Cost Accounting. An examination of the managerial uses of accounting information for planning and control, and an investigation of cost accounting theory and practice. Prereq.: ACCT 3711 Cost Accounting or equivalent. 3 s.h.

6915 Estate Planning. A study of estate and gift tax law including tax return preparation. Emphasis on the importance of estate planning and the devices available for use in such planning, and effective uses of lifetime gifts, trusts, life insurance, pension plans, profit sharing, and other fringe benefit plans. The effects of state inheritance tax and property laws upon estate planning will be included. Prereq.: C or better in ACCT 4813 or equivalent. 3 s.h.

6930 Accounting Theory. A survey of the history and development of accounting conventions, concepts, and principles leading to an intensive study of contemporary thought relative to income determination and asset valuation. Prereq.: ACCT 3702 Intermediate Accounting II or equivalent. 3 s.h.

6960 Seminar in Accounting. Specific topics selected by the staff from timely and controversial work published in the field. Prereq.: All core courses, plus at least six hours (6900-level) in accounting or permission of instructor. 2 s.h.

6968 Special Topics in Accounting. Topics may vary from semester to semester and will be announced with prerequisites and hours. May be repeated. 1–3 s.h.

6975 Business Tax Planning II. This course continues the study of income tax laws concerning corporations generally, including Subchapter S corporations, corporate reorganizations, partnership taxation, and tax administration and practice. Prereq.: ACCT 6905. 2 s.h.

6980 Governmental and Nonprofit Accounting. A study of accounting systems for federal, state, and local governmental agencies and other not-for-profit organizations. (Not available for credit to students who have had ACCT 4820.) Prereq.: FIN 6900 Government and Funds Accounting or equivalent. 2 s.h.

6996 Research Problems. Special research project under the supervision of a graduate faculty member. Credit will be determined in each case in light of the nature and extent of the project. Prereq.: Fifteen hours of level II M.B.A. coursework or permission of M.B.A. director. 1–3 s.h.

FINANCE

6900 Financial Accounting and Finance for Decision Making. A survey of the fundamental concepts of financial accounting employed by general managers. Additionally, a survey of the concepts, principles, and practices of financial management used by general managers and the links between the two types of information. Permit required. 4 s.h.

6910 Business Internship. Provides graduate students the opportunity to relate theory to practice through on-the-job work experience with a participating organization. The internship will serve as an elective M.B.A. course. Prereq.: Completion of level I M.B.A. coursework and six semester hours of level II M.B.A. coursework. 1–3 s.h.

6920 Global Business Environment. The environments and operating issues affecting firms doing business in the global arena are covered. Economic, cultural, political, legal, and competitive environments are covered, along with the global management of functional areas including finance, marketing, operations, and human resources. Cross-listed as MGMT 6920 and MKTG 6920. Prereq.: Completion of all level I M.B.A. coursework, MGT 6921, MKTG 6942, FIN 6921. 3 s.h.

6921 Financial Management. A study of business finance through the use of case study analysis, including relevant articles and text material. Major topics deal with working capital management, net present value—internal rate of return, lease versus buy, and the cost of capital. Case analysis is used to integrate financial theory into an applied managerial decision-making context. Prereq.: ACCT/FIN 6900 or equivalent. 3 s.h.

6922 Capital Management. Managerial economics of capital budgeting, sourcing, rationing, and control for large enterprises; forecasting demand and internal generation of capital; intangible capital investments; administration of capital appropriations; public policy implications. Prereq.: FIN 6921, MGMT 6916, or permission of instructor. 3 s.h.

6924 Securities Analysis. The major emphasis will be an in-depth, fundamental analysis of the investment merits of the common stock of a firm. This study will be accomplished by applying the appropriate analytical principles and valuation techniques to the firm's financial statements. A research paper will be required. Prereq.: FIN 6921. 3 s.h.

6936 Financial Markets and Institutions. An in-depth study of functions of financial markets, role of financial institutions, and the impact of government regulation with emphasis on nature and functions of global aspects of financial markets; management of financial intermediaries; innovative financial services and products; and impact of public policies and regulations. Prereq.: FIN 6921. 3 s.h.

6939 Multinational Accounting and Finance. A cross-functional examination of selected topics in international accounting and finance with emphasis on developing research and problem-solving skills. Cases will be presented that teach the strategy and tactics of multinational corporate reporting and financial management. Prereq.: FIN 6921. 3 s.h.

6953 Advanced Financial Analysis. Applications of financial analysis to business consulting. Includes case studies and practical implementation strategies. Prereq.: FIN 6921. 3 s.h.

6968 Special Topics in Finance. Topics may vary from semester to semester and will be announced with prerequisites and hours. May be repeated. 1-3 s.h.

6970 Seminar in Finance. Specific topics selected by the staff from timely and controversial work published in the field. Prereq.: All core courses, plus at least six hours (6900-level) in the finance concentration, or permission of instructor. 3 s.h.

6996 Research Problems. Special research project under the supervision of a graduate faculty member. Credit will be determined in each case in light of the nature and extent of the project. Prereq.: Fifteen hours of level II M.B.A. coursework or permission of M.B.A. director. 1-3 s.h.

AMERICAN STUDIES

Stephanie Tingley, Program Director
245 DeBartolo Hall
(330) 941-2482
satingley@ysu.edu

5845 Work in America. (3 s.h.)

5850 Class and Culture. (3 s.h.)

6900 Approaches to American Studies. Introduction to American studies with emphasis on history of the field, interdisciplinary approaches, and cultural diversity. 3 s.h.

6910 Introduction to Working-Class Studies. Introduction to developments, approaches, and issues in new working-class studies, including intersections of class with other categories of identity, disciplinary and interdisciplinary perspectives, representations of the working class in the arts and media, and political and economic constructions of class. 3 s.h.

6930 Humanities in the Community. Opportunities, challenges, and strategies for developing, promoting, and implementing public humanities projects in various settings, including community development and organizing, community-based adult education, and programs in museums and other public humanities organizations. Prereq.: AMER 6900. 3 s.h.

6970 Teaching Working-Class Studies. Interdisciplinary teaching strategies focused on incorporating attention to work, class, diversity, and local history and culture into K-12 and college courses. 3 s.h.

6975 Interdisciplinary Teaching. Introduction to interdisciplinarity and its application in the classroom with emphasis on integration of humanities and social sciences. 3 s.h.

6980 Public Humanities Internship. Supervised work-and-learning experience in American studies under the direction of an American studies core faculty member and an employee of a participating organization. 3 s.h.

6982 Special Topics. Specialized topics selected by the staff. May be repeated once with a different topic. Prereq.: Permission of the American studies program coordinator and instructor. 3 s.h.

6985 Independent Study. Individual study in American studies or a related discipline under the supervision of a faculty member. May be repeated once. Prereq.: Permission of the American studies program coordinator and instructor. 3 s.h.

6990 Independent Project. Completion of individual project in a community or school setting. Prereq.: Proposal and review meeting with committee. May be repeated for a maximum of three semester hours. 1-3 s.h.

ART

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Students who wish to take the 6900-level courses in painting, ceramics, sculpture, or photography must first submit a series of slides and a statement of purpose to the studio faculty for review and approval.

5840 Topics in Ancient Art. (3 s.h.)

5850 Topics in Painting and Drawing. (3 s.h.)

5860 Topics in Design. (3 s.h.)

5873 Topics in Advanced Photography. (3 s.h.)

5881 Twentieth-Century Art to 1960. (3 s.h.)

5882 Twentieth-Century Art from 1960. (3 s.h.)

6910 Studio Problems in Sculpture. Individual research of the technical, visual, conceptual, and aesthetic issues of contemporary sculpture. Professional studio practices are explored as well as conceptual art issues dealing with non-traditional formats, idea-oriented artworks and the notion of "research," and the blending of theoretical and material practice. Students develop a self-critical, articulate, and individual approach to solving aesthetic solutions to self-determined visual narratives and challenges. Repeatable for a maximum of six s.h. Prereq: Permission of instructor. 1-3 s.h.

6911 Studio Problems in Sculpture. Emphasis on building on ideas researched in ART 6910 to develop greater conceptual, aesthetic, and technical sophistication. Directed readings and writing assignments in addition to professional studio practice are used to promote further development of individual approaches to solving aesthetic solutions to self-determined visual narratives and challenges. May be repeated for a maximum of six s.h. Prereq: ART 6910. 1-3 s.h.

6912 Studio Problems in Sculpture. Students engage in the final phase of conceptual and technical refinement that will result in a cohesive body of work that demonstrates their conceptual direction and technical proficiency. Studio practice together with intense analytical discourse of current studio work and exhibition thesis drafts prepare students for the visual, written, and oral defense components of their ART 6924 capstone course experience. May be repeated for a maximum of 6 s.h. Prereq.: ART 6911. 1-3 s.h.

6920 Historical and Philosophical Foundations of Art Education. Evaluation of the historical, chronological, and philosophical developments in art education with emphasis on significant trends and movements which have impacted its growth and structure. Prereq.: Graduate status. 3 s.h.

6921 Current Issues, Perspectives, and Curriculum Practices in Art Education. A survey of current issues and legislative mandates that affect art education curriculum. Students will gain insight into curriculum development, implementation, and evaluation of art education programs. Prereq.: Graduate status. 3 s.h.

6922 Graduate Seminar in Art Education. Explores contemporary events, theories, issues, trends, and practices that are influencing the field of art education. Prereq.: Graduate status. 3 s.h.

6923 Graduate Art Thesis. Students will develop a thesis in one of three modes: scholarly thesis, studio inquiry and essay, or teaching project and report. Repeatable for up to 5 total semester hours. Prereq.: Graduate status.

1-5 s.h.

6924 Graduate Studio Project and Exhibition. A professional art exhibition and written artist statement as an exit requirement and an alternative to the graduate research thesis option. Activities will include design and production of artworks for exhibition, directed readings, portfolio development, written assignments including an artist statement, oral defense of exhibition, and faculty review. The 5 s.h. requirement can be fulfilled through enrollment in ART 6924 over successive semesters at between 1-5 s.h. credit; however, students are encouraged to complete the course within two semesters. Prereq.: 18 studio credits.

1-5 s.h.

6930 Studio Problems in Ceramics. Individual research in spatial arts imagery. Concentration on individual study in ceramic construction, firing process and calculation, formulation and firing of clay bodies, and low-fire and high-fire glaze systems. May be repeated for a maximum of six semester hours of credit. Prereq.: Permission of instructor and evidence of previous work.

3 s.h.

6931 Studio Problems in Ceramics. Continuation of ART 6930. May be repeated for a maximum of six semester hours of credit. Prereq.: ART 6930.

1-3 s.h.

6932 Studio Problems in Ceramics. Continuation of ART 6931. May be repeated for a maximum of six semester hours of credit. Prereq.: ART 6931.

1-3 s.h.

6940 Studio Problems in Printmaking. Individual research into monoprinting, intaglio etching, relief printing, silkscreen, lithography, and monotype. May be repeated for a maximum of six semester hours. Prereq.: Portfolio presentation and permission of instructor.

3 s.h.

6941 Studio Problems in Printmaking. Continuation of ART 6940. May be repeated for a maximum of six semester hours. Prereq.: ART 6940.

1-3 s.h.

6942 Studio Problems in Printmaking. Continuation of ART 6941. May be repeated for a maximum of six semester hours. Prereq.: ART 6941.

1-3 s.h.

6950 Studio Problems in Painting. Individual research of two-dimensional form through various media, including oil, acrylic, watercolor, collage, etc. May be repeated for a maximum of six semester hours credit. Prereq.: Permission of instructor and evidence of previous work.

3 s.h.

6951 Studio Problems in Painting. Continuation of ART 6950. May be repeated for a maximum of six semester hours credit. Prereq.: ART 6950.

3 s.h.

6952 Studio Problems in Painting. Continuation of ART 6951. May be repeated for a maximum of six semester hours credit. Prereq.: ART 6951.

1-3 s.h.

6960 Special Topics in Art History. Study in one of the many areas of art history. May be taken up to three times for credit if the topic is not repeated.

3 s.h.

BIOLOGICAL SCIENCES

Gary Walker, Chair
4037 Ward Beecher Hall
(330) 941-7177
grwalker@ysu.edu

5804 Aquatic Biology. (3 s.h.)
 5806 Field Ecology. (4 s.h.)
 5809 Concepts of Developmental Biology. (3 s.h.)
 5811 Ornithology. (4 s.h.)
 5813/5813L Vertebrate Histology. (4 s.h.)
 5823 Advanced Eukaryotic Genetics. (3 s.h.)
 5824 Behavioral Neuroscience. (4 s.h.)
 5827 Gene Manipulation. (2 s.h.)
 5832 Principles of Neurobiology. (4 s.h.)
 5833 Mammalian Endocrinology. (3 s.h.)
 5834 Advanced Systems Physiology I. (4 s.h.)
 5835 Advanced Systems Physiology II. (4 s.h.)
 5840 Advanced Microbiology. (3 s.h.)
 5844 Physiology of Reproduction. (3 s.h.)
 5853 Biometry. (3 s.h.)
 5861 Animal Behavior. (3 s.h.)
 5868 Gross Anatomy I. (4 s.h.)
 5869 Gross Anatomy II. (4 s.h.)
 5888 Environmental Biotechnology. (4 s.h.)
 5980 Workshop on Experimental Biology in the Classroom. (2-3 s.h.)

6900 **Advanced Bioinformatics.** An examination of how computer and informatics technology is applied to biological data analysis, particularly in the area of genomics data mining, and its use in genomics, molecular, and systems biology research. Three hours of lecture per week. Prereq.: BIOL 4890 or permission of instructor.
 3 s.h.

6911/6911L **Comparative Biomechanics.** Overview of biomechanical principles involved with the structure and function of animals. Topics include mechanical properties of biomaterials, comparative muscle architecture and physiology, and locomotor mechanisms of human walking and running. Three hours lecture and two hours lab. Prereq.: BIOL 2602 or BIOL 3705, and PHYS 1501 or 2610.
 4 s.h. + 0 s.h.

6929/6929L **Functional Neuroanatomy.** An examination of the structure, function, integration, and cellular control of the brain and spinal cord. Three hours lecture, two hours lab. Students who have enrolled in BIOL 4929 will not receive credit for this course. Prereq.: BIOL 3730 or equivalent.
 4 s.h.

6934/6934L **Advanced Systems Physiology 1.** Examination of advanced human physiology through a detailed study of selected body systems. Systems examined may include the neuromuscular, cardiovascular, and renal systems, exchange dynamics among body fluid compartments, and acid-base balance. Three hours lecture, three hours lab. Prereq.: BIOL 3730.
 4 s.h. + 0 s.h.

6935/6935L **Advanced Systems Physiology 2.** Examination of advanced human physiology through a detailed study of selected body systems. Systems examined may include the respiratory and gastrointestinal systems, metabolism and temperature regulation. Three hours lecture, three hours lab. Prereq.: BIOL 3730.
 4 s.h. + 0 s.h.

6940 **Microbial Physiology.** This course will present advanced topics in biomolecule synthesis, molecular biology, bacterial genetics, gene expression, energy production photosynthesis, bacteriophages, and microbial stress response. An integrative laboratory project emphasizing some of these topics will be included. Three hours lecture and three hours laboratory. Prereq.: Graduate standing.
 4 s.h.

6948 **Biology of Fungi.** Examination of fungal and fungal-like organisms with emphasis placed upon their taxonomy, phylogenetic relationships, structure, function, physiology, genetics, and ecology. Their role in agriculture, medicine, and scientific research is explored as well. Three hours lecture and three hours laboratory. Prereq.: BIOL3702 Microbiology and graduate standing.
 4 s.h.

6949 **Cellular and Molecular Mycology.** Specific cellular and molecular processes in fungal organisms will be examined in great detail. Topic areas include morphogenesis, dimorphism, signal transduction, gene expression and regulation, cellular differentiation, nutritional physiology, primary and secondary metabolism, and host/parasite interactions. Prereq.: BIOL 3702 or equivalent, and graduate standing.
 3 s.h.

- 6950 Comparative Animal Physiology.** The study of physiological mechanisms and adaptations of animals to environmental stresses of their habitats. Three hours lecture and three hours laboratory per week. Prereq.: BIOL 3730 Human Physiology or equivalent. 4 s.h.
- 6951 Developmental and Comparative Neurobiology.** The study of processes critical to the development, maintenance, and function of the nervous system. Topics will be presented from an experimental perspective using the scientific literature as a resource. Prereq.: BIOL 3730 Human Physiology or equivalent. 3 s.h.
- 6952 Experimental Design.** Controlling variables, experimental design, and treatment of data from biological experiments. Prereq.: BIOL 5853 or permission of instructor. 3 s.h.
- 6954 Advanced Ecology.** Interrelationships of species within the community and their influence upon the ecosystem. Prereq.: Permission of instructor. 3 s.h.
- 6957 Advanced Immunology.** Fundamentals of immunological systems, including both humoral and cellular immunological responses. Immune response to infections, transplantation rejection, autoimmune diseases, allergy, and autoimmunity. Three hours of lecture a week. Prereq.: BIOL 3702 Microbiology or equivalent. 3 s.h.
- 6957L Advanced Immunology Laboratory.** Immunologic laboratory techniques. Four hours of laboratory a week. Should be taken concurrently with BIOL 6957. 2 s.h.
- 6959 Analytical Cell Biology.** Analytical concepts are applied to the study of cells and cellular processes. The use of microscopic techniques, including microtechniques, fluorescent microscopic analysis, and immunocytochemistry, are presented. Qualitative and quantitative analysis of macromolecular composition is used in answering contemporary questions in cell biology. Prereq.: Graduate standing. 4 s.h.
- 6962 Systematic Zoology.** Principles, significance, and procedure of zoological taxonomy. Prereq.: BIOL 3741 Animal Diversity. 2 s.h.
- 6963 Virology.** Viral structure, replication, infection, and pathogenesis. The molecular biology of viruses and their interactions with host cells, and the use of viruses as tools for gene therapy and genetic engineering. Current research and viruses important in world health, such as HIV, will be emphasized. Prereq.: Graduate standing or permission of instructor. 3 s.h.
- 6964 Advanced Molecular Genetics.** An examination of the mechanisms of transcription, translation, DNA replication, and RNA processing and transposition in both prokaryotes and eukaryotes. Prereq.: BIOL 4890 Molecular Genetics or permission of instructor. 3 s.h.
- 6966 Protein Analysis.** Students will gain experience in the analysis of proteins. Protein structure and function relationships are discussed in the context of their relevance in analytical techniques. Methods presented and used in class include protein quantification, two-dimensional gel electrophoresis, liquid chromatography, gel image analysis, and amino acid analysis. Two hours lecture and four hours laboratory. Prereq.: BIOL 5836 or equivalent, and graduate standing. 4 s.h.
- 6974 Neuroendocrinology.** Current concepts of neuroendocrine processes will be discussed. Prereq.: BIOL 5833 or equivalent, or permission of instructor. 3 s.h.
- 6975 Neuropharmacology.** An examination of how drugs interact with the nervous system, including the locus of action for neuroactive substances and the mechanisms by which these substances cause change in physiology and behavior. Prereq.: Graduate standing or permission of instructor. 3 s.h.
- 6976 Cellular Neurophysiology.** Detailed study of ionic currents, regulation of neuronal firing patterns, synaptic transmission, and synaptic plasticity. Prereq.: BIOL 5832 or permission of instructor. 3 s.h.
- 6978 Teaching Practicum I: Principles of Biology.** A course dealing with principles of pedagogy for both classroom and laboratory settings. This is a broad-based course, which will address basic principles and concepts of modern biology. Emphasis is on relationships between instruction and learning outcomes. Required of all graduate teaching

assistants in the Biological Sciences. Students will be assigned a grade of S/U. May be repeated. 1 s.h.

6979 Teaching Practicum: 1545 Anatomy and Physiology. A course dealing with the principles of pedagogy for BIOL 1545 Allied Health Anatomy and Physiology. This course addresses classroom and laboratory topics in human anatomy and physiology, with an emphasis on the relationships between instruction and learning outcomes. Required of graduate teaching assistants providing instructional support for BIOL 1545. Students will be assigned a grade of S/U. May be repeated. 1 s.h.

6980 Workshop on Experimental Biology in the Classroom. Problems, issues, and practice of experimental biology in the K-12 classroom. Students will learn to identify teaching strategies appropriate to curricular objectives, develop effective science activities, and organize and manage lab activities in the classroom. May be repeated. 2-3 s.h.

6981 Teaching Practicum: 1551 Anatomy and Physiology I. A course dealing with the principles of pedagogy for BIOL 1551 Anatomy and Physiology I. This course addresses classroom and laboratory topics in human anatomy and physiology with an emphasis on the relationships between instruction and learning outcomes. Required of graduate teaching assistants providing instructional support for BIOL 1551. Students will be assigned a grade of S/U. May be repeated. 1 s.h.

6982 Teaching Practicum: 1552 Anatomy and Physiology II. A course dealing with the principles of pedagogy for BIOL 1552 Anatomy and Physiology II. This course addresses classroom and laboratory topics in human anatomy and physiology with an emphasis on the relationships between instruction and learning outcomes. Required of graduate teaching assistants providing instructional support for BIOL 1552. Students will be assigned a grade of S/U. May be repeated. 1 s.h.

6988 Seminar in Biological Sciences. May be repeated up to two semester hours. 1 s.h.

6989 Graduate Research Experience. Independent study for graduate students wishing to learn specific biological research techniques. Applicable only to biology graduate students following the nonthesis or biology education options. May be repeated for up to a total of three semester hours. Prereq.: Permission of instructor or department chair. 1-3 s.h.

6990 Master's Thesis Research. Research selected and supervised by departmental advisor and approved by graduate faculty of Biology Department and graduate dean. Prereq.: Acceptance by departmental committee. May be repeated for a maximum of six semester hours. 1-6 s.h.

6991 Research Methods for Thesis. Discussion and demonstration of current methods and concepts related to research in biological sciences and writing of a graduate thesis proposal. Not applicable for students enrolled in the nonthesis or biology education options. Prereq.: Permission of instructor. May be repeated once. 3 s.h.

6994 Research Methods for Nonthesis. A course focused on reviewing current biological concepts as reported in the scientific literature. Not applicable for students enrolled in the thesis or biology education options. Prereq.: Permission of instructor. 2 s.h.

6995 Research in Biological Education. Current methods, concepts, and applications of biological principles related to the field of biological education will be discussed. Not applicable for students enrolled in the thesis or nonthesis options. Prereq.: Permission of instructor. May be repeated once. 2 s.h.

6996 Topics in Ecology. An arranged course in terrestrial and aquatic ecology. May be repeated with a different subject up to 2 s.h. Prereq.: Permission of instructor. 1 s.h.

6997 Topics in Molecular and Cellular Biology. An arranged course in subjects at the molecular level of life. May be repeated with different subject up to 2 s.h. Prereq.: Permission of instructor. 1 s.h.

6998 Topics in Physiology. An arranged course for advanced subjects in vertebrate physiology. May be repeated with a different subject up to 2 s.h. Prereq.: Permission of instructor. 1 s.h.

7000 Topics in Microbiology. An arranged course on subjects of microbiology. May be repeated with a different subject up to 2 s.h. Prereq.: Permission of instructor. 1 s.h.

7010 Techniques in Animal Tissue Culture. Procedures for in vitro culture of cells, including preparation of culture media and maintenance of primary and secondary cultures. Preparation of and cloning of hybridomas. Purification of monoclonal antibodies. One hour of lecture a week and four hours of laboratory. Prereq.: BIOL 3702 Microbiology or equivalent. 3 s.h.

CHEMICAL ENGINEERING

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dmprice@ysu.edu

5800 Special Topics. (1-4 s.h.)
5805 Principles of Biomedical Engineering. (3 s.h.)
5810 The Business of Engineering. (3 s.h.)
5811 Advanced Transport Phenomena. (3 s.h.)
5820 Industrial Pollution Control. (3 s.h.)
5821 Fundamentals of Polymer Science. (3 s.h.)
5830 Nuclear Reactors. (3 s.h.)
5835 Introduction to Nuclear Fusion. (3 s.h.)
5850 Industrial Processes. (3 s.h.)
5883 Mathematical Methods in Chemical Engineering. (3 s.h.)
5886 Nuclear Reactor Design. (3 s.h.)

6983 Modern Power Sources. Analytical and descriptive study of modern power plants. Combustion and environmental problems with fossil-fueled power plants. Electromagnetic circuits and devices with emphasis on the principles of electromechanical energy conversions. 3 s.h.

6984 Nuclear Fission and Fusion Power Sources. Energy available from fission and fusion nuclear reactions, on setting and maintaining chain reaction. Mechanical and electromagnetic confinement techniques. Reactor design, heat removal, and safety problems. 3 s.h.

6985 Electromechanical Motion Devices. Thermodynamics of batteries, and electric and fuel cells. Power from nuclear isotopes. Features common to rotating electromagnetic fields. Analysis and design of electromechanical power components. 3 s.h.

6990 Thesis. Research selected and supervised by departmental advisor. Prereq.: Acceptance by departmental committee. May be repeated for a maximum of nine semester hours. 1-9 s.h.

CHEMISTRY

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5804 Chemical Instrumentation. (4 s.h.)
5821 Intermediate Organic Chemistry. (3 s.h.)
5822 Advanced Organic Laboratory. (4 s.h.)
5830 Intermediate Inorganic Chemistry. (2 s.h.)
5831 Inorganic Chemistry Laboratory. (2 s.h.)

5832 Solid-State Structural Methods. (3 s.h.)

5836 Quantum Chemistry. (3 s.h.)

5861 Polymer Science I: Polymer Chemistry and Plastics. (4 s.h.)

5862 Polymer Science II: Polymer Rheology, Processing, and Composites. (3 s.h.)

5876 Enzyme Analysis. (2 s.h.)

6911 Advanced Analytical Chemistry I. Theory and applications of spectroscopy and theory of chemical separation methods. Prereq.: CHEM 3739 Physical Chemistry I. 3 s.h.

6912 Advanced Analytical Chemistry II. Applications of chemical separation methods and theory and applications of electrochemistry and electrochemical techniques. Prereq.: CHEM 3739 Physical Chemistry. 3 s.h.

6921 Advanced Biochemistry I. Protein structure and intermediary metabolism. Prereq.: CHEM 3720 Organic Chemistry II, or concurrently with CHEM 3737 Biophysical Chemistry or CHEM 3739 Physical Chemistry I. 3 s.h.

6922 Advanced Biochemistry II. A study of metabolic pathways and other biochemical systems at the molecular level. Prereq.: CHEM 6921. 3 s.h.

6931 Advanced Inorganic Chemistry I. Current theories and types of bonding. Modern structural principles with applications in main-group molecular compounds, coordination compounds, and inorganic solids. Prereq.: CHEM 3729 Inorganic Chemistry. 3 s.h.

6932 Advanced Inorganic Chemistry II. Transition metal organometallic chemistry emphasizing molecular structure, bonding methods, characterization, and functional group reactivity. The properties, chemical reactivity, and trends of the elements. Prereq.: CHEM 5830, 6931, or permission of instructor. 3 s.h.

6933 Physical Methods in Structure Determination. The determination of molecular-level structures of biological, organic, and inorganic compounds in the gas phase, solution, and solid state by diffraction and spectroscopic methods, especially X-ray crystallography and NMR spectroscopy. Three hours lecture. Prereq.: CHEM 5822, 5832, or permission of instructor. 3 s.h.

6941 Advanced Organic Chemistry I. Principles of chemical bonding and structure in organic molecules, physical organic chemistry, structure of reactive intermediates, stereochemistry, and detailed descriptions of reaction mechanisms. Prereq.: CHEM 3721 Genetics and CHEM 3740 Physical Chemistry II. 3 s.h.

6942 Advanced Organic Chemistry II. Detailed study of functional group transformations in organic synthesis as applied to the preparation of complex molecules. Carbon-carbon bond forming reactions, organometallic reagents in organic synthesis, oxidation-reduction chemistry, and multi-step synthesis. Prereq.: CHEM 6941. 3 s.h.

6951 Advanced Physical Chemistry I. Principles of quantum chemistry and spectroscopy with applications. 3 s.h.

6952 Advanced Physical Chemistry II. Molecular basis of thermodynamics and kinetics. 3 s.h.

6963 Advanced Polymer Science. Advanced methods of polymer synthesis and characterization, high performance polymers, polymerization kinetics and mechanisms, polymer processing, materials optimization, and high performance applications. Three hours lecture. Prereq.: CHEM 3740 Physical Chemistry II and CHEM 5861, or permission of the instructor. 3 s.h.

6969 Laboratory Problems. A laboratory course that stresses individual effort in solving chemical problems. Recommended for high school chemistry teachers. Not applicable to the M.S. degree in chemistry. Prereq.: An undergraduate minor in chemistry. May be repeated up to six semester hours. 2 s.h.

6971 The Teaching and Learning of Chemistry. An introduction to the current literature and research problems in the teaching and learning of chemistry. Topics include theories of teaching, learning styles, assessment, problem solving, misconceptions, and the role of laboratories, recitations, and demonstrations in learning chemistry. Also includes examination of these issues as related to teaching biology. Cross-listed with BIOL 6971. 3 s.h.

6972 Methods of Chemistry Education Research. Principles of chemistry education research. Issues of problem design, data collection, and data analysis are considered from both quantitative and qualitative frameworks. Methodologies include surveys and questionnaires, think-along protocols, interviews, observations, and action research. Also includes examination of these issues as related to biology. Cross-listed with BIOL 6972. 3 s.h.

6973 Chemistry and National Science Education Standards. Implications of national standards for modifying high school chemistry instruction in a variety of classroom situations. Topics include inquiry learning, science and technology literacy, the history and nature of science, preservice science teacher education, assessment, and the impact of standards on advanced placement chemistry. Also includes examination of these issues as related to teaching high school biology. Cross-listed with BIOL 6973. 3 s.h.

6975 An Introduction to Teaching Chemistry. A course to prepare graduate students to serve as teaching assistants in both chemistry laboratories and recitations. Topics include laboratory safety (governmental regulations, ACS guidelines, hazardous materials, waste disposal) and practical matters of teaching (active learning, leading discussions, grading, cheating, etc.). Required of all graduate students serving as first-year teaching assistants. 1 s.h.

6976 Teaching Practicum in General Chemistry. Teaching strategies in the General Chemistry laboratory. Students will meet with General Chemistry course instructors and must demonstrate proficiency in the material to be presented in CHEM1515 General Chemistry I and 1516 General Chemistry II laboratories. Grading for CHEM 6976 is S/U. Prereq. or concurrent: CHEM 6975. May be repeated for a total of six semester hours for CHEM 6976, 6977, 6978, and 6979. 2 s.h.

6977 Teaching Practicum in Allied Health Chemistry. Teaching strategies in the Allied Health Chemistry laboratory. Students will meet with Allied Health Chemistry course instructors and must demonstrate proficiency in the material to be presented in CHEM 1505 Allied Health Chemistry I and 1506 Allied Health Chemistry II laboratories. Grading for CHEM 6977 is S/U. CHEM 6977, 6978, and 6979. Prereq. or concurrent: CHEM 6975. May be repeated for a total of six semester hours for CHEM 6976. 2 s.h.

6978 Teaching Practicum in Organic Chemistry. Teaching strategies in the organic chemistry laboratory. Students will meet with organic chemistry course instructors and must demonstrate proficiency in the material to be presented in CHEM 3719 Organic Chemistry I and 3720 Organic Chemistry II laboratories. Grading for CHEM 6978 is S/U. Prereq. or concurrent: CHEM 6975. May be repeated for a total of six semester hours for CHEM 6976, 6977, 6978, and 6979. 2 s.h.

6979 Teaching Practicum for Chemistry in Modern Living Lab. Teaching strategies in the Chemistry in Modern Living Laboratory. Students will meet with course coordinator and must demonstrate proficiency in the material to be presented in CHEM 1500L. Grading for CHEM 6979 is S/U. Prereq. or concurrent: CHEM 6975. May be repeated for a total of six semester hours for CHEM 6976, 6977, 6978, and 6979. 2 s.h.

6980 Introduction to Chemical Research. Principles of chemical research planning, design, execution, and reporting. Includes research proposals, record keeping, written reports, oral presentations, the reviewing process, and professional standards. The application of the principles of chemical research to the student's M.S. research project. Required of all first-year students in the M.S. program in chemistry. 3 s.h.

6981 Seminar I. Preparation of a formal written research proposal and oral presentation of the proposal. Under the guidance of a research supervisor, the student will investigate the background literature and rationale for a project. Required of all first-year students in the M.S. program in chemistry. Hours arranged. Prereq.: CHEM 6980 and permission of the Chemistry chair. 1 s.h.

6982 Seminar II. Oral presentation and defense of thesis. Hours arranged. Prereq.: CHEM 6981 and permission of the thesis advisor, or concurrently with six semester hours of CHEM 6990. 1 s.h.

6985 Fundamental Chemistry for Educators. Fundamentals of general, organic, and biological chemistry including application to the teaching of science. Two hours lecture, three hours laboratory/discussion. Not applicable to the M.S. degree in chemistry. Prereq.: Admission to the graduate program or permission of instructor. 3 s.h.

6989 **Special Topics in Chemistry Practicum.** Topics selected by the faculty from fields of current research, pedagogical interest, or special emphasis. S/U grading option. May be repeated with different topics. 1–3 s.h.

6990 **Thesis.** Hours arranged. May be repeated. 1–9 s.h.

6991 **Special Topics.** Topics selected by the faculty from fields of current research interest or of special emphasis. May be repeated with different topics. 1–3 s.h.

7000 **Topics in Clinical and Environmental Microbiology.** An arranged course on subjects of microbiology. Prereq.: Permission of instructor. 1 s.h.

7010 **Techniques in Animal Tissue Culture.** Procedures for in vitro culture of cells, including preparation of culture media and maintenance of primary and secondary culture. Preparation of and cloning of hybridomas. Purification of monoclonal antibodies. One hour of lecture a week and four hours of laboratory. Prereq.: BIOL 3702 Microbiology or equivalent. 3 s.h.

CIVIL AND ENVIRONMENTAL ENGINEERING

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5820 **Pavement Material and Design.** (3 s.h.)

5829 **Civil Engineering Materials, Concrete.** (3 s.h.)

5832 **Natural Systems Engineering.** (3 s.h.)

5837 **Environmental Engineering Design.** (3 s.h.)

5849 **Structural Analysis II.** (3 s.h.)

5855 **Reinforced Concrete Design.** (3 s.h.)

5856 **Steel Design.** (3 s.h.)

5877 **Systems Engineering.** (3 s.h.)

5882 **Foundation Engineering** (3 s.h.)

5883 **Bridge Engineering** (3 s.h.)

5884 **Solid and Hazardous Waste Management.** (3 s.h.)

6910 **Advanced Strength of Materials.** The basic methods of structural mechanics, such as conditions of equilibrium and compatibility, stress-strain relations. General treatment of energy principles including virtual work, minimum potential energy; applications to statically determinate and indeterminate systems such as rings, curved beams, plates, and other elastic systems. 3 s.h.

6920 **Wetlands Engineering.** Wetland characteristics—soils, hydrology, and vegetation; wetland functions and values; regulations; planning, theory, design and construction of created and constructed wetlands; applications in wetland mitigation, wastewater treatment, and pollution control. Prereq.: CEEN 3736 Fundamentals of Environmental Engineering or equivalent. 3 s.h.

6921 **Groundwater and Surface Water Modeling.** Mathematical simulation of hydrodynamic processes and pollutant transport in subsurface and surface water environments. Prereq.: CEEN 3716 Fluid Mechanics and CEEN 3736 Fundamentals of Environmental Engineering. 3 s.h.

6930 **Sediment and Contaminant Transport.** Understanding of sediment and contaminant transport in fluvial environments. Topics include sediment characteristics, incipient motion, scour, bankfull discharge, advection, and mixing. Prereq.: CEEN 3717 or equivalent. 3 s.h.

- 6941 Structural Mechanics.** Study of beams under lateral load; beams with combined lateral load and thrust; buckling beams on elastic foundations; applications of Fourier series and virtual work principles to beam-type structures; stress and strain in three dimensions; applications to flexure of beams and plates and to constrained torsion; elements of engineering theory of plates. 3 s.h.
- 6947 Finite Element Analysis.** An introduction to finite element techniques as applied to problems in structural mechanics. Direct and variational methods of element formulation with application to beams, beam-columns, frames, arches, thin plates, and shells. 3 s.h.
- 6951 Construction Project Management.** An integrated approach to construction project management. Advanced topics of Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) and its application in construction project scheduling. Resource allocation and leveling, construction cost control, computer simulation of construction operations, and expert systems construction. 3 s.h.
- 6952 Foundation Engineering.** Principles of mechanics of materials applied to foundation problems; stresses and deformations in soils, consolidation theory; shallow and deep foundation design. 3 s.h.
- 6953 Flow Through Porous Media.** Analysis of seepage volume and stresses due to flow of water through soils in connection with dams, slopes, excavations, subsurface drainage, and wells. 3 s.h.
- 6956 Advanced Soil Mechanics.** Development of shear strength theories, Mohr-Coulomb-Hvorslev equation, critical path concept, stability of slopes, lateral earth-pressure theories, development of bearing capacity equations. Prereq.: CEEN 4881 or equivalent. 3 s.h.
- 6957 Structural Stability.** A study of the elastic stability of engineering structures, beam columns, static buckling of elastic beams, frames, plates, and shells, dynamic stability of beams and plates. 3 s.h.
- 6958 Structural Dynamics.** Analysis of the response of structures to air blasts and earthquake motions; development of both the normal mode and frequency response methods in dealing with periodic and nonperiodic excitations. 3 s.h.
- 6959 Advanced Steel Design.** Advanced topics in the structural design of girders, frames, and trusses. Light gauge metal structures. Use of modern alloys and hybrid systems. 3 s.h.
- 6961 Advanced Concrete Design.** Consideration of advanced design techniques for reinforced concrete members and structures such as composite and prestressed concrete beams, box girders, and slabs. 3 s.h.
- 6965 Special Topics.** The application, in civil engineering, of special topics selected by the faculty from fields of current research interest or special emphasis. May be repeated up to six semester hours. 3 s.h.
- 6967 Biological Treatment Processes.** Theory and design of biological processes used in the treatment of municipal and industrial wastewaters, and in the remediation of hazardous wastes. Prereq.: CEEN 3736 Fundamentals of Environmental Engineering. 3 s.h.
- 6972 Advanced Topics in Environmental Engineering.** Advanced concepts related to the transport, reaction, phase distribution, and fate of pollutants in both the natural environment and treatment systems. Prereq.: CEEN 3736 Fundamentals of Environmental Engineering. 3 s.h.
- 6975 Physical and Chemical Treatment Processes.** Theory and design of physical and chemical processes used in the treatment of water supplies, wastewater, and hazardous wastes. Prereq.: CEEN 3736 Fundamentals of Environmental Engineering. 3 s.h.
- 6976 Design of Small Dams.** Flood routing, reservoir engineering. Hydraulic design of small gravity, earth-fill and rock-fill dams, spillways, and energy dissipaters. Prereq.: CEEN 3717 Hydraulic Design and 6977. 3 s.h.
- 6977 Hydrology.** Precipitation; hydrologic abstractions; runoff; urban and small watershed hydrology; frequency analysis; digital simulation. 3 s.h.

6978 Water Resources Policy and Management. International, national, and local water resources case studies, laws, policies, and management strategies are discussed. The need and demand for water; technical, economic, financial, social, environmental, and political considerations; data requirements; multipurpose projects. 3 s.h.

6979 Water Quality Modeling. Mathematical modeling of physical, chemical, and biological processes in natural systems; development of computer models to simulate the fate and transport of pollutants in lakes, streams, and estuaries; application of models to evaluate water resource management options. Prereq.: CEEN 3736 Fundamentals of Environmental Engineering. 3 s.h.

6989 Graduate Projects. Special projects involving research, analysis, design, or other independent investigation, undertaken by the M.S. student under the direction of a graduate faculty member with the approval of the department chair. Credit will be determined in each case based on the nature and extent of the project. 1-3 s.h.

6990 Thesis. Hours arranged. May be repeated. 1-9 s.h.

COMMUNICATION

Adam Earnhardt
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acearnhardt@ysu.edu

5852 Conflict Management and Negotiation. (3 s.h.)

5858 Practicum. (3 s.h.)

5898 Seminar in Speech Communication. (3 s.h.)

6945 Communication for the Classroom Teacher. The study of communication theory and practice appropriate for the prospective classroom teacher. Theories and application exercises focus on interpersonal communication, group communication, and classroom speaking. 3 s.h.

6950 Computer Mediated Communication Research. Theory, research, and application of CMC including examination of computer communication theories and relevant research methodologies, web design theory and critiques, blogging, podcasting, e-mailing, social media, multimedia storytelling. Design, implementation, and evaluation of CMC. 3 s.h.

6953 Group Dynamics: Theory and Research. Theory and research of group processes, critical thinking and creativity strategies, theory of group leadership and teamwork, conflict management and mediation, advanced group decision-making and problem solving, motivational strategies. 3 s.h.

6957 Organizational Communication Research. Applies theories of organizational communication to a chosen organization. Culminates with report and presentation. 3 s.h.

6960 Theories of Persuasion and Sales. This course examines the major theories, research and strategies found in persuasion and sales, and allows for their applications in diverse settings. 3 s.h.

6970 Internship. Communication-related work in a non-academic professional setting. Prereq: Completion of the MA core courses. 3 s.h.

6980 Applied Research Methods. Focus on literature and methods relevant to the business communication setting. Application of quantitative and qualitative methods. 3 s.h.

6994 Capstone. Applied research paper on a communication topic. Oral presentation required. For non-thesis option students only. Thesis option students should take CMST 6995: Thesis. Prereq: Completion of the MA core courses. 3 s.h.

6995 **Thesis.** Research study on an applied communication topic. Oral presentation required. Total of 6 s.h. required for the MA thesis option. For thesis option students only. Non-thesis option students should take CMST

6994: **Capstone.** Prereq: Completion of the MA core courses. 1-6 s.h.

COMPUTER SCIENCE AND INFORMATION SYSTEMS

Kriss A. Schueller, Chair
339B Meshel Hall
(330) 941-3134
tom@cis.yсу.edu

5801 **Software Engineering.** (3 s.h.)

5806 **Operating Systems.** (3 s.h.)

5807 **Compiler Design.** (3 s.h.)

5814 **Computer Architecture.** (3 s.h.)

5820 **Simulation.** (3 s.h.)

5822 **Database Design and Information Retrieval.** (3 s.h.)

5823 **Communication Network Security.** (3 s.h.)

5824 **Applied Artificial Intelligence.** (3 s.h.)

5828 **Computer Network Security.** (3 s.h.)

5835 **Artificial Intelligence.** (3 s.h.)

5837 **Artificial Intelligence in Game Design.** (3 s.h.)

5838 **Graphics and Animation for Gaming.** (3 s.h.)

5840 **Theory of Finite Automata.** (3 s.h.)

5857 **Encoding and Encryption.** (3 s.h.)

5860 **Programming Language Structures.** (3 s.h.)

5870 **Data Structures and Algorithms.** (3 s.h.)

5881 **Microcomputer System Architecture.** (3 s.h.)

5883 **Remote Access and Multilayer Switched Networks.** (3 s.h.)

5884 **Building Scalable Networks and Advanced Inter-Network Troubleshooting.** (4 s.h.)

5895 **Special Topics.** (2-4 s.h.)

6900 **Computing and Information Systems Workshop.** Intensive study and activity in a topic related to computing and information systems. May be repeated. Grading is S/U. Prereq.: Permission of graduate coordinator. 1-3 s.h.

6901 **Principles of Computer Programming.** Significant features of several computer programming languages to fit the needs of graduate students with no previous computer science experience. Programming techniques and problem analysis. Students will do programming projects appropriate for their needs. 3 s.h.

6905 **Information Structures.** Basic concepts of information: modeling structures, machine level implementation, storage management, programming, language implementation, run-time structures, sorting, and searching. Prereq.: CSIS 3710 Introduction to Discrete Structures and CSIS 3740, or permission of chair. 3 s.h.

6910 **Computer Software Systems.** Classes of software systems, system structures, systems operations. Resource management routines. Software design. Prereq.: CSCI 6905 or equivalent. 3 s.h.

6915 **Computer Organization and Architecture.** Organization and architectural design of the subsystems and major functional units of modern digital computers and their interconnections. Prereq.: CSIS 6905 or equivalent. 3 s.h.

6920 **Theory and Practice of Information Systems.** A study of the relationship of information systems to individuals, organizations, and society. A detailed study of the principles, methodologies, and issues associated with designing, implementing, and administering information systems as a resource in a networked, data-driven organization. Prereq.: CSIS 3722 Development of Databases and CSIS 3723 Networking Concepts and Administration. 3 s.h.

6921 Strategic Project and Change Planning. Information technology control, including organizational effects through methods, control techniques, and project tools. Cases provide domestic and international experience via initialization, planning, execution, tracking, and risk assessment. Time, reporting, resources, project relevance, organizational impact, and operational consistency are addressed through anticipatory, reactive, and crisis approaches. Prereq.: CSCI 6920. 3 s.h.

6930 Formal Languages and Syntactic Analysis. Study of formal languages, especially context-free languages, and their applications to parsing and syntactic analysis. Prereq.: CSIS 3710 Introduction to Discrete Structures or CSCI 6905. 3 s.h.

6940 Advanced Network Design and Administration. Advanced network design, implementation, and administration. Topics include infrastructure and architecture, VLSM, logical and physical designs, security issues, voice over IP, client/server networks, and VLANs. Prereq.: CSIS 3723 Networking Concepts and Administration or CSIS 3783 Cisco Networking Academy I. 3 s.h.

6950 Advanced Database Design and Administration. Advanced concepts in database design, development, and administration. Database query languages, transactions, and data warehousing. Relational calculus. System analysis; concurrency; backup and recovery, and security issues; advanced models, including distributed, object-oriented, and online databases. Prereq.: CSIS 3722 Development of Databases or equivalent. 3 s.h.

6951 Data Warehousing and Data Mining. Basic methodology for planning, designing, building, using, and managing a data warehouse. Legacy systems, operational data stores, and data marts. Data mining techniques for visualization and deriving information from a data warehouse for strategic decision making. Prereq.: CSIS 3722 Development of Databases. 3 s.h.

6961 Client-Side Web Development and Programming. Design and development of interactive, multimedia webpages. Effective uses of forms, graphics, and animation. Client-side programming tools, such as dynamic HTML, document object model, and JavaScript for graphics and form validation. Storyboarding techniques and user interface design principles. Prereq.: CSIS 2617 Data Structures and Objects or CSCI 6901. 3 s.h.

6962 Server-Side Web Development and Programming. Configuration of web server software and the use of server-side programming. Server-side scripting in languages such as PHP and JavaServer Pages. Database access and drivers. Security issues, including access control and secured transmissions. Prereq.: CSIS 3722 Development of Databases and either CSIS 2617 Data Structures and Objects or CSCI 6901. 3 s.h.

6990 Computer Science Project. Report and discussion of individual topics or research projects in computer science. Prereq.: Nine semester hours of computer science courses numbered above 5000. 1-3 s.h.

6993 Computing and Information Systems Graduate Internship. An industrial/academic experience in information systems/technology. Employment for 15 to 20 hours per week. Prereq.: CSIS 6920 and permission of graduate internship supervisor. May be repeated once with the permission of graduate internship supervisor. 1-3 s.h.

6995 Special Topics in Computer Science. Special topics in computer science selected by the staff. Prereq.: Permission of chair. 1-4 s.h.

6996 Independent Study. Study under the supervision of a faculty member. Prereq.: Permission of chair. 1-4 s.h.

6999 Thesis. A student may register for six semester hours in one semester or for three semester hours in each of two semesters. 3-6 s.h.

COUNSELING, SPECIAL EDUCATION, AND SCHOOL PSYCHOLOGY

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COUNSELING

5821, 5822 Seminar in Guidance and Counseling. (1-3 s.h.)

5821G Life Span Development and Counseling (3 s.h.)

5825 Group Processes in the School. (2 s.h.)

5879 Consultation with Gifted/Talented Students and Their Families. (3 s.h.)

5888 Introduction to Health and Wellness Counseling. (3 s.h.)

5895 Counseling Workshop. (1-3 s.h.)

5898 Orientation and Ethical Issues in Community Counseling. (3 s.h.)

5965 Counseling Workshop-Special Topics. (1-5 s.h.)

5967 Guidance and Counseling Workshop. (1-3 s.h.)

6900 Counseling Methods and Practice. Methods and practices of professional counseling relative to relationship, goals, process, and documentation. Relevant ethical guidelines are stressed. Includes experiential skill training. For counseling majors or by permission of Department of Counseling. Prereq. or concurrently: COUN 6962. 3 s.h.

6902 Theory and Foundation of Addictions Counseling. This course provides a comprehensive overview of chemical dependency and process addictions. There will be an emphasis on all aspects of addiction, including etiology, classification, physiological effects of substances, theory, assessment, interventions, and recovery models. 3 s.h.

6903 Addictions Counseling: Treatment and Intervention. Knowledge, skills, and practice related to chemical dependency and process addictions. There will be an emphasis on assessment, models for treatment, and skills necessary to work in addiction/prevention programs in diverse settings. 3 s.h.

6904 Crisis Counseling. An overview of the professional concerns and issues school psychologists face working in public school systems. Orientation and preparation for the supervised internship experience will be discussed; future responsibilities as a professional and staff consultant. Legal and ethical issues pertaining to the role of a school psychologist will be reviewed. 3 s.h.

6905 Cultural/Ethnic Issues Relating to Youth and Families. Introduces pertinent theoretical cultural issues which relate to mental health professionals as they work with diversified populations. In particular, therapeutic skill enhancement of professionals will be advanced, since all counseling may be seen as cross-cultural. Group work and experiential exercises will provide an avenue for the professional and personal cultural growth of each participant. The goal is to also enhance participant's level of cultural sensitivity. 3 s.h.

6910 Human Development and Family Systems Counseling. The purpose of this course is to provide students with the content knowledge of human development and systems theory in order to become effective in helping individuals and families change. Major theoretical approaches to life span development and family counseling will be addressed. 3 s.h.

691I International Area Study: Project Learning Around the World. This course is designed to enhance mental health or teacher's professional and personal level of sensitivity and competence via introducing them to innovative and traditional forms of intervention or healing in community and school settings in a developing country. Students will participate in philanthropic activities by helping to gather and deliver educational supplies via Project Learning Around the World (www.platw.org). 3 s.h.

6912 Multilevel Tier Interventions Across General Education and Special Education Programming. Direct experiences in planned multilevel interventions across the three tiers of services within educational school systems for regular education and children with disabilities. Participation in RTI team meetings, curriculum academic and applied and functional behavioral analysis, progress monitoring, goal attainment scaling and determining effectiveness of intervention plans will be introduced. 3 s.h.

6930 College Counseling and Student Mental Health. This course provides students with an overview of the field of college counseling. The course addresses the following topics: history, philosophy, theories, cultural dynamic, technology applications, assessment and evaluation responsibilities, legal and ethical issues, and current trends in college counseling settings. The college counselor's role, function, and professional identity as a student advocate, program coordinator, individual/group counselor, and prevention specialist is addressed. 3 s.h.

6961 Orientation and Ethical Issues in School Counseling. This course provides students with an introduction to the field of professional counseling, and the foundations of school counseling. The course addresses the following topics: history, philosophy, cultural dynamics, advocacy, consultation, technology applications, classroom management issues, and trends in professional and school counseling. The counseling profession's ethical standards are also addressed with an emphasis on the American Counseling Association (ACA) and American School Counselor Association (ASCA) code of ethics, and counselor ethical decision-making processes. 3 s.h.

6962 Counseling Theory. Basic principles of counseling in an educational context. Development of procedural bases for counseling and educationally oriented counseling theory. Ethics and limitations involved in counseling practices. 3 s.h.

6963 Occupational and Educational Information in Guidance. Principles of career development and use of educational and occupational information resources in the guidance program. Lecture and discussion are used to explore occupational structure of the United States, sources of educational and occupational information including community resources, and the collecting, classifying, filing, and organization of educational and occupational information for use in the guidance program. 2 s.h.

6964 Appraisal Techniques in Counseling. Overview of the administration, scoring, and interpretation of standardized tests and measures used in counseling practice with specific focus and supervised practice in the administration and interpretation of standardized ability, interest, intelligence, and aptitude tests. 3 s.h.

6965 Applied Testing in Career Counseling. Administration, scoring, and interpretation of selected assessment tools and their application to career counseling. Prereq.: COUN 6964. 2 s.h.

6968 Research in Counseling. The study and application of quantitative and qualitative research in counseling with statistical application component. 3 s.h.

6969 Administration of Personnel and Guidance Services. A comprehensive study of the dynamic qualities inherent in planning, management, functioning, and structuring of personnel and guidance services in public schools. 2 s.h.

6970 Counseling and Social Services in the Schools. Examines the scope and comprehensive developmental programs for counseling and social services in the schools with consideration of need assessment and development of such programs. 2 s.h.

6971 Human Relations for the Classroom. The course focuses on skill development in human relations. These skills are studied and integrated with cognate skill development in the classroom, classroom planning and organization conflict resolution, and coping with behavior problems and motivation. Application is made to the classroom environment. 2 s.h.

6972 Career Counseling. Theories of vocational choice, vocational success and satisfaction, decision making, and vocational testing. Career counseling as related to the economic and social context. 3 s.h.

6973 Group Counseling Theory and Practice. Theories pertaining to group dynamics, process, interaction, consultation, and counselor intervention. For counseling majors or by permission of Department of Counseling. Prereq. or concurrently: COUN 6962. 2 s.h.

- 6973L Group Counseling Laboratory.** Supervised experience in the use of interventions appropriate to stages of group development. Emphasis will be placed on promoting self-awareness, interpersonal skills, and group skills and techniques. Laboratory is taken concurrently with COUN 6973. 1 s.h.
- 6974 Case Studies in School Guidance and Field Experience in Community Social Agencies.** Methods of collecting data, synthesis, and interpretation of data about a person and relationship to environment. Real and assumed situations of pupils over an extended period of time are presented for study and analysis. The course includes practical field experience with various community social agencies to acquaint the student with agency services and social casework methods. Particular emphasis is placed on the disadvantaged and exceptional child. 2-4 s.h.
- 6975 Counselor Consultation and Prevention.** This course is a study of the theoretical models of consultation and prevention. Techniques for implementation of consultation and prevention in schools, agencies, and higher education settings will be presented. 3 s.h.
- 6976 Social and Cultural Issues in Counseling.** Counseling theory and techniques related to social and economic change, ethnic groups, subculture, issues of sexuality and gender, urban and rural societies, cultural mores, the use of leisure time, and differing life patterns. 3 s.h.
- 6980 Diagnosis of Mental Disorders.** *Overview of Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV-TR) format, with emphasis placed on the development of diagnostic skills for the major mental and emotional disorders commonly encountered in social service, educational, and community counseling agencies. 3 s.h.
- 6982 Educational Leadership in Primary and Intervention Strategies.** This course will identify mental health issues that impact individuals, families, and the educational system. Prevention and intervention strategies will be explored, as well as issues and procedures of referral. 2 s.h.
- 6990 Independent Study.** Individual investigation of advanced topics under guidance of selected staff. Permission of instructor required. 1-3 s.h.
- 6991 Family Systems.** Systems theory as applied to family functioning. Major theoretical approaches to family counseling, including ethics and techniques, will be addressed. 3 s.h.
- 7001 Counseling Practicum I.** Supervised individual counseling practice with volunteer clients. Focus upon process, clarification, and resolution of counselee goals and counselor self-awareness/evaluation. Students are required to attend a scheduled orientation in the Community Counseling Clinic prior to the first class. Prereq.: COUN 5898 or 6961, 6900, 6962, 6973 (can be taken concurrently), 6980 (required for clinical counseling students only). 3 s.h.
- 7002 Clinical Mental Health Counseling Practicum II.** Supervised individual and group counseling practices in settings appropriate to student's programs. Requires field placement of 150 hours. Prereq.: COUN 7001, no PR grades, successful completion of counseling program comprehensive exam, and permission of program area internship coordinator. 3 s.h.
- 7003 Counseling Children and Adolescents.** Various theories and respective techniques for counseling and psychotherapy with children and adolescents. Research concerning the efficacy of such approaches will also be studied. 3 s.h.
- 7004 Practicum in Student Affairs.** This course will provide an orientation to the student services division, as well as offering students the opportunity to gain experience in a higher education setting. The program component will include individual and group supervision, as well as supervised field experience. 3 s.h.

7005 Internship in Student Affairs. This course will provide a weekly supervision and 600 hours of supervised field experience for student affairs students. The internship supervision is designed to promote the integration of theory and practitioner experiences for students in the student affairs program and to help students prepare for the transition to a professional student affairs position following completion of the degree. Prereq.: COUN 6900, 6962, 7004, and 7026. 3-6 s.h.

7006 Guidance in the Classroom. Studies various factors important to a facilitative climate in the classroom and activities through which elementary counselors and teachers can provide these conditions. Considered as classroom management and discipline techniques based upon learning theory, implementation of democratic group structure for elementary school classrooms, and organized activities designed to promote the development of self-understanding and understanding of others in the child's world. The course requires extensive reading and review of published materials designed for classroom guidance in addition to observation of classrooms and role-playing experiences. 2 s.h.

7007 School Counseling Practicum II. Supervised individual and group counseling practices in school counseling. Requires field placement of 150 hours. Prereq.: COUN 7001, no PR grades, successful completion of department comprehensive exam, and permission of instructor. 3 s.h.

7008 Assessment for Educational Decision Making. Assessment procedures used for making leadership decisions in the educational setting. Emphasis on community assessment, identifying high-risk students, and the development of guidance and state testing programs. 2 s.h.

7009 School Counseling Internship. Supervised internship in approved school counseling programs. May be repeated to a maximum of 9 semester hours. For counseling majors or by permission of Department. Prereq.: COUN 7002. 3-8 s.h.

7010 Clinical Mental Health Counseling Internship. Supervised internship in approved community agencies offering counseling and other mental health services. May be repeated to a maximum of 9 semester hours. For counseling majors or by permission of program area internship coordinator. Prereq.: COUN 7002. 3-6 s.h.

7013, 7014, 7015 Topical Seminar in Counseling. The course is for practicing counselors and counselor trainees and will include a survey of literature in counseling, contemporary issues, individual and small group study of special problems chosen by staff, for example, research in counseling, counselor values, and the counseling process; student values and drug abuse; team approach to counseling services; etc. May be repeated to a maximum of 10 semester hours. 1-3 s.h.

7017 Group Procedures in Counseling. A laboratory course intended as an experimental introduction to dynamics of groups. Students will participate in community experiences involving the entire class as well as small group activities involving subdivisions of the class. Readings on group processes and involvement in relevant projects and reports are also included in the course. Prereq.: Permission of instructor. 2 s.h.

7021 Legal and Ethical Issues in Student Affairs. This course is designed to provide graduate students with an introduction to the legal and ethical issues which affect higher education and student affairs practice. The primary goal of this course is to provide an exploration and understanding of legal issues pertaining to the various constituents of colleges and universities (students, faculty, and administrators). 3 s.h.

7023 Life Span and College Student Development. The purpose of this course is to provide an introduction to the field of college student and human development across the life span. Students will be exposed to a range of human development theories and student characteristics that offer insight into the processes of student learning, growth, and development. Special focus will be directed toward understanding patterns of growth and change during the college years for different student subgroups and the implications of these changes for the practices of student affairs and college counseling. 3 s.h.

7026 Orientation and Functions of Student Affairs. The primary purpose of this course is to provide students with a comprehensive introduction to the functional areas of student affairs. The application of a counseling-based knowledge and skills for student affairs practitioners will be emphasized. 3 s.h.

- 7028 Advanced Counseling Theory and Treatment Seminar.** Research and discussion on selected counseling theories (e.g., Adler, Rogers, Ellis, Carkhuff, Berne) chosen by staff. May be repeated. 3 s.h.
- 7029 Professional Issues in Student Affairs.** The purpose of this course is to expose graduate students to contemporary issues shaping student affairs practice. Topics will vary but will focus on the development of knowledge and skills in emerging areas relevant to professionals in student affairs (e.g., enrollment management, retention, assessment, finance and budget, grant writing). 3 s.h.
- 7030 Human Relations Training for School Personnel.** Designed to improve the interpersonal relationships of administrators, counselors, teachers, and other professional staff. Objectives include examination of personal communication styles, the effect of the individual on task groups, and increasing leadership potential. For counseling majors or permission of Department of Counseling. 2 s.h.
- 7031 Clinical Psychopathology and Treatment.** Counseling theories of abnormal behavior and mental disorders throughout the total life cycle. Specific personality theories and examinations of empirically-derived treatments will be included. Prereq.: COUN 6962. 3 s.h.
- 7032 Clinical Intellectual Testing.** Supervised practice in the administration and interpretation of standardized intelligence and aptitude tests. Prereq.: COUN 6964. 3 s.h.
- 7033 Personality Objective/Projective Assessment.** Supervised practice in the administration and interpretation of standardized objective and projective measures of personality. Prereq.: COUN 6964. 3 s.h.
- 7034 Advanced Evaluation of Mental and Emotional Status.** This course provides an advanced overview of the administration and interpretation of intelligence and personality tests. The course is designed to assist the student in becoming aware of testing procedures, testing practices and professional issues concerning the topic of assessment and to provide the student with practical assessment skills applicable to counseling. Prereq.: COUN 6934. 3 s.h.
- 7036 Consultation and Educational Approaches to Prevention.** The study of consultation theory and models. Educational approaches to prevention of substance abuse, child abuse, family and marriage problems, etc. will be included. 3 s.h.
- 7037 Counseling and Psychopharmacological Treatments of Mental and Emotional Disorders.** The study of pharmacological, behavioral, cognitive, and emotive strategies and techniques associated with the treatment of mental and emotional disorders commonly encountered in mental health settings. Prereq.: COUN 6980 or 7013A. 3 s.h.
- 7038 Counseling with Couples.** Application of family systems theory to intervention and prevention strategies with couples. 3 s.h.
- 7039 Administration and Supervision of Mental Health Services.** A comprehensive study of management, planning, function, personnel structuring, supervision, and counseling services in a mental health setting. 2 s.h.
- 7040 Supervision Practicum.** Theory and practice of counselor supervision. Includes practicum assignment in counselor education. For counseling majors only and by permission of Department of Counseling. Prereq.: COUN 7010. 3 s.h.
- 7041 Case Conceptualization, Treatment Planning, and Clinical Supervision.** The purpose of this course is to provide students with the advanced case conceptualization, treatment/planning intervention (24 hours) and theory/practice of supervision (24 hours). Includes 12 contact hours of supervision of practicum students at the YSU Counseling Program Community Counseling Clinic. Prereq. or concurrent: COUN 7010. 3 s.h.

7042 Administration and Organization in Higher Education. The purpose of this course is to expose graduate students to the complex study of administrative practices and organizational theory in the context of examining campus environments. By developing an informed knowledge base regarding the multiple perspectives of organizations and campus environments, students will be better prepared to lead change in student affairs settings. 3 s.h.

7044 Leadership and Administration in Student Affairs. This course provides students with an opportunity to read, reflect, and integrate theories, concepts, and practices related to leadership and administration. Students will be challenged to reflect on their core values and principles. Students will see leadership through a new paradigm, and formulate their own philosophy of leadership. Students will be challenged to employ visionary leadership in the planning and implementation stage of change. 3 s.h.

7046 Assessment in Student Affairs Practice. The purpose of this course is to promote the understanding of assessment and program evaluation in enhancing practice. The course will focus on how to utilize assessment to improve practice and to demonstrate the effectiveness of programs, as well as to provide opportunities to effectively assess various dimensions of the college experience. By learning the usefulness and appropriateness of various assessment methodologies, the emerging practitioner will learn to provide evidence for effective practice. 3 s.h.

7050 College Counseling Internship. Supervised experience in a college counseling clinic/center offering diagnosis and treatment of mental and emotional disorders. For counseling majors or by permission of program area internship coordinator. Prereq.: COUN 7010. 3 s.h.

7060 Thesis Research. Design, proposal, completion, and reporting of scholarly research deemed acceptable by the department faculty. For counseling majors or by permission of Department of Counseling. Prereq.: COUN 6964, 6968, or permission of department chair. 1-6 s.h.

7509 Family Systems Within an Educational Context. The focus of the didactic and experiential course will be on identifying patterns of children's symptoms, repositioning of the therapist within the educational system context and learning various therapeutic techniques to use with families of children with disabilities or other mental health issues. 3 s.h.

SPECIAL EDUCATION

5802 Education of Exceptional Children. (3 s.h.)

5810 Introduction to Sign Language. (3 s.h.)

5828 Education of Seriously Emotionally Disturbed Children and Youth. (4 s.h.)

5833 Characteristics and Needs of Exceptional Children and Youth with Moderate/Intensive Disabilities. (3 s.h.)

5834 Educational Strategies and Methods for Children and Youth with Moderate/Intensive Disabilities. (4 s.h.)

5835 Classroom Management for Exceptional Children and Youth. (4 s.h.)

5851 Transition Planning, Social Skill Development, and Health-Related Issues. (3 s.h.)

5853 Diagnosis and Intervention in Mathematics for Special Education. (3 s.h.)

5858 Intervention Concepts and Strategies in Early Childhood Special Education. (2 s.h.)

5864 Service Coordination, Collaboration, and Consultation for Students with Special Needs. (3 s.h.)

5865 Workshop in Special Education. May be repeated to a maximum of 12 semester hours. (1-4 s.h.)

5866 Assessment and Referral of Exceptional Children and Youth for the Intervention Specialist. (3 s.h.)

5867 Intervention and Remediation of Receptive/Expressive Language Dysfunction. (3 s.h.)

5868 Mild/Moderate Disabilities Practicum. (4 s.h.)

5870 Independent Study in Special Education. (1-4 s.h.)

5871 Characteristics and Needs of Gifted Children. (3 s.h.)

5878 Teaching Gifted and Talented Students. (4 s.h.)

5965 Special Education Workshop – Special Topics. 1-5 s.h.

6900 Issues, Trends & Foundations in Special Education. Exploratory study of the issues, trends, and foundations in special education. Evidence-based principles, laws and policies, diverse and historical points of view, and human issues that focus on the education of individuals with mild or intensive exceptional learning needs are

examined. The relationship of special education to the organizations and functions of schools/agencies is explored. Prereq.: Admission into the program and approval of the department chair. 3 s.h.

6901 System-Wide Consultation/Collaboration in the Schools. Current educational practices have made collaboration an essential way education professionals do their work. This course will cover the theoretical bases and consultation/collaboration skills necessary for affecting change in the educational environment from a system wide perspective. The aim of this course is to prepare Intervention Services students to function as collaborative consultants promoting systematic and planned strategies for use within the public schools and with families with children with disabilities. 3 s.h.

6905 Cultural/Ethnic Issues Relating to Youth and Families. Introduces pertinent theoretical cultural issues which relate to mental health professionals as they work with diversified populations. In particular, therapeutic skill enhancement of professionals will be advanced, since all counseling may be seen as cross-cultural. Group work and experiential exercises will provide an avenue for the professional and personal cultural growth of each participant. The goal is to also enhance participant's level of cultural sensitivity. 3 s.h.

6906 Characteristics and Behaviors of Learners with Mild/Moderate and Moderate/Intensive Exceptional Learning Needs. Course focuses on federal and state laws and initiatives that influence the operations and decisions of educational opportunities for students with mild/severe disabilities. Topics include categories of disabilities, current trends and best practices for instruction and assessment. Also, recommended collaboration strategies for educators, administrators and families. Prereq.: Successful completion or concurrent enrollment in SPED 6900. 3 s.h.

6909 Assessment and Intervention for Students with Low Incidence Disabilities. Emphasis will be on current most effective practices of the professional collaboration process across three tiers of service to include specific models and strategies for students in general education and especially those with autism and/or a low incidence disability. Candidates will develop a team training model and will evaluate evidence-based practices. 3 s.h.

6911 International Area Study: Project Learning Around the World. This course is designed to enhance mental health or teacher's professional and personal level of sensitivity and competence via introducing them to innovative and traditional forms of intervention or healing in community and school settings in a developing country. Students will participate in philanthropic activities by helping to gather and deliver educational supplies via Project Learning Around the World (www.platw.org). 3 s.h.

6912 Multilevel Tier Interventions Across General Education and Special Education Programming. Direct experiences in planned multilevel interventions across the three tiers of services within educational school systems for regular education and children with disabilities. Participation in RTI team meetings, curriculum academic and applied and functional behavioral analysis, progress monitoring, goal attainment scaling and determining effectiveness of intervention plans will be introduced. 3 s.h.

6914 Behavior Management for Educators. Classroom application consistent with the study of behavior management with a focus on ethical strategies and implementation of intervention techniques for learners with mild/intensive exceptional learning needs. Successful completion of a 30-hour field experience is required. Prereq.: Successful completion of SPED 6906 or concurrent enrollment in SPED 6906. 3 s.h.

6915 Classroom Management and Crisis Intervention for Learners with Severe Emotional and Behavior Disorders. Behavior analysis, behavior management, instruction, curriculum and program development for youth with severe emotional and/or behavior disorders. Advanced behavior change interventions and a practicum consisting of work in the field with emotionally and/or behaviorally disturbed youth required. Prereq.: Successful completion of SPED 6909. 3 s.h.

6927 Curriculum Design, Adaptations and Resources for Learners with Mild/Moderate Exceptional Learning Needs. Knowledge of curriculum terminology, approaches and models, content, and design to provide and enhance access to the general curriculum for students with exceptional learning needs. Course focuses on the skills to select and implement curricular adaptations for learners with exceptional learning needs within the general education classroom. Prereq.: Successful completion of SPED 6906. May be taken concurrently with SPED 6929. 3 s.h.

6928 Transition and Life Skill Supports for Learners with Moderate/Intensive Exceptional Learning Needs.

Course focuses on best practices of the professional collaboration process with regard to the transition process for students with moderate/intensive exceptional learning needs. Learner's individual strengths and characteristics will be considered to facilitate social, vocational and daily living skills for all learners. Successful completion of a two-hour field experience is required. Prereq.: Successful completion of SPED 6906. 3 s.h.

6929 Assessment of Gifted and Exceptional Learners. Course focuses on the educational assessment process as it applies to exceptionalities (learners with disabilities as well as gifts and talents). Topics include a review of state and federal regulations, data collection techniques including both formal and informal methods, appropriate test preparation and interpretation, design of identification and placement procedures. Prereq.: Successful completion of SPED 6906. 3 s.h.

6930 Instructional Methodologies for Learners with Mild/Moderate and Moderate/Intensive Exceptional Learning Needs. This course is designed to provide candidates with the opportunity to research, study, apply and analyze instructional strategies and delivery systems in the four major content areas. The candidates will use the referenced strategies to both support and promote single subject and cross-curricular high quality instruction for candidates with special needs. Prereq.: Successful completion of SPED 6910, 6927, 6928, 6929. 3 s.h.

6931 Clinical Experience for Learners with Mild/Moderate Exceptional Learning Needs. Supervised clinical experiences incorporating theory, planning, and implementation of services for learners with mild/moderate learning needs. Weekly seminars will connect theory to practice during concurrent enrollment in SPED 6930. Prereq.: Successful completion of SPED 6909, 6927, 6928, 6929, concurrently enrolled in 6930, and passage of Praxis II. 3 s.h.

6932 Clinical Experience for Learners with Moderate/Intensive Exceptional Learning Needs. Supervised clinical experiences incorporating theory, planning, and implementation of services for learners with moderate/intensive learning needs. Weekly seminars connect theory to practice. Prereq.: Successful completion of SPED 6909, 6927, 6928, 6929, 6930, 6931, and passage of Praxis II. 3 s.h.

6965 Special Topics in Disabilities Education. Workshop will include information on various current topics appropriate to the education of students with disabilities. These include assessment, identification, and instructional processes. Prereq.: PRAXIS passage. 1-4 s.h.

6970G Special Topics in Gifted Education. Workshop will include information on the various identification techniques used in gifted education with particular emphasis on the role of the regular education teacher. In addition, instructional strategies for use within the regular education classroom will be explored. 1-4 s.h.

6980 Topical Seminar in Special Education. Selected topics in special education. May be repeated for different content. 1-4 s.h.

6981 Seminar in Special Education. This course details current issues in the field of special education involving research, pedagogy, methodologies, and application. Emphasis is on the intervention and remediation of receptive/expressive language dysfunctions, as well as other issues related to children and youth with disabilities. Prereq.: SPED 6983. 3 s.h.

6982 Educational Assessment in Gifted and Special Education. The course focuses on the educational assessment process as it applies to students with exceptionalities. Topics include a review of state and federal regulations; data collection techniques, including both formal and informal methods; appropriate test preparation and interpretations; and design of identification and placement procedures. Prereq.: SPED 5871. 3 s.h.

6984 Major Concepts and Program Design for Students in Special Education. Major concepts, program development, and program evaluation involving youth with special needs are parts of this course. Programs related to the transition process will be studied and reviewed. 3 s.h.

6986 Severe Behavior Disorders. A comprehensive analysis of programs and the description of the delivery of services to a wide range of seriously emotionally disturbed children and youth. Prereq.: SPED 6906 or 6983. 3 s.h.

6991 Referral and Assessment in Early Childhood Special Education. Intensive hands-on experience in referral and assessment of young children. Emphasis on philosophies and ethical considerations, as well as techniques,

instruments, and the referral process. Participation within the assessment team with parents involved as equal partners in the multidisciplinary process. Written assessment reports are required based upon knowledge of child development and a variety of sources of input. Prereq.: Admission to College of Education upper division; SPED 5858. 3 s.h.

6992 Teaching Methods in Early Childhood Special Education. Examines accepted curricular models in early childhood special education, as well as classroom management and motivation strategies as they relate to young children with special needs. Emphasizes the inclusion of parents in planning process. Students will learn to integrate curriculum with individual IEP/IFSP goals and objectives. Prereq.: SPED 5858. 3 s.h.

6993 Health and Related Issues in Early Childhood Special Education. A study of curricular experiences focusing on those aspects of early childhood special education dealing with the instructional applications of technology and the use of adaptive equipment and related services as these relate to technologically dependent or chronically ill children. 2 s.h.

6994 Field Experiences in Early Childhood Special Education. Supervised field experiences incorporating theory, planning and implementation of services for young children with special needs. Prereq.: SPED 5858, 6991, 6992, 6993. 4–8 s.h.

6996 Teaching Strategies/Autism. Application of assessment, curriculum planning, preparation of materials and practice teaching methods for students with autism spectrum disorders and related disabilities. Methodology emphasizes most effective practices for instructing students who need academic and/or life skills curricula. Prereq.: SPED 6914 or equivalent. 3 s.h.

6998 AAC Strategies. Assessment and application of methods to increase communication form, function, and literacy for individuals who need alternate and/or augmentative communication (AAC). Prereq: SPED 6996 and PSYCH 6960 or 6990. 3 s.h.

6999 Field Experiences Autism/Related Disorders. Supervised clinical field experiences incorporating theory, planning, and implementation of services for children with autism spectrum disorders. Weekly seminars connect theory to practice. Prereq: SPED 6996, 6998, and PSYC6960 or 6990. May be repeated once for a maximum of 6 s.h. 3-6 s.h.

7021 Field Experience I. See EDAD 7021. 2 s.h.

7040 Field Experience in Gifted and Talented Education. (SED 7040) Supervised field experience that incorporates theory, planning, and implementation of curriculum for gifted and talented students. Individual conferences and completion of contracted assignments. Prereq.: SPED 5871, 5878, 6982, 6983 and COUN 5879. 2 s.h.

7042 Professional Development for Classroom Teacher Educators. A restricted professional development course for classroom teacher educators invited to supervise the instructional program of student teachers and field experience students. The course concentrates on developing analytical observation, conferencing, evaluation, and supervision skills based on scientific knowledge and theoretical constructs. Prereq.: Invitation from YSU and endorsement from home school district to serve as a classroom teacher educator. 2 s.h.

7043 Instructional Leadership in Special Education. Implementation, coordination, and evaluation of quality instructional programs for exceptional, at-risk, and other students experiencing learning problems. Administrative roles and strategies related to instructional leadership, school climate, collaborative decision making, and restructuring. Prereq.: COUN 6961 and SPED 7977. 3 s.h.

7077 Leadership in Gifted and Disabilities Education. The course focuses on leadership, administration, and supervision of a broad range of programs and services for students with exceptionalities (students with disabilities as well as gifted students). Topics include review of theoretical foundations, historical and sociological issues as these relate to education of special populations, as well as in-depth study of federal and state legal issues,

differentiated programming and procedures, student identification and placement, individualized education plans, due process, least restrictive environment, and program monitoring and evaluation. Prereq.: SPED 5871, 5878, 6983, and COUN 5879. 3 s.h.

SCHOOL PSYCHOLOGY

5965 School of Psychology Workshop – Special Topics. Selected topics related to intervention and current interest in the school of psychology field of study. Grading is S/U. Prereq: admission to School of Graduate Studies and Research. 1-5 s.h.

6901 System-Wide Consultation/Collaboration in the Schools. Current educational practices have made collaboration an essential way education professionals do their work. This course will cover the theoretical bases and consultation/collaboration skills necessary for affecting change in the educational environment from a system wide perspective. The aim of this course is to prepare Intervention Services students to function as collaborative consultants promoting systematic and planned strategies for use within the public schools and with families with children with disabilities. 3 s.h.

6902 School Organization, Classroom Analysis, Cross-Categorical Settings. Provides students in the school psychology program with the opportunity to observe and participate in educational regular education (K-12) and special education settings (SLD, CD, ED, MH, Autistic clinics, for B-21 years of age) in order to understand the organization of educational institutions they will ultimately serve as well as student population characteristics to understand the organization of educational institutions they will ultimately serve. 3 s.h.

6904 Crisis Counseling. An overview of the professional concerns and issues school psychologists face working in public school systems. Orientation and preparation for the supervised internship experience will be discussed; future responsibilities as a professional and staff consultant. Legal and ethical issues pertaining to the role of a school psychologist will be reviewed. 3 s.h.

6905 Cultural/Ethnic Issues Relating to Youth and Families. Introduces pertinent theoretical cultural issues which relate to mental health professionals as they work with diversified populations. In particular, therapeutic skill enhancement of professionals will be advanced, since all counseling may be seen as cross-cultural. Group work and experiential exercises will provide an avenue for the professional and personal cultural growth of each participant. The goal is to also enhance participant's level of cultural sensitivity. 3 s.h.

6906 Role and Function of a School Psychologist. An overview of the professional concerns and issues school psychologists face working in public school systems. Orientation for a supervised internship experience will be discussed; future responsibilities as a professional and staff consultant. Historical, legal and ethical issues pertaining to the role of a school psychologist will be reviewed. 3 s.h.

6907 Comprehensive Readings in School Psychology. Provides supervised readings and class discussions in preparation for the master's comprehensive examination. 3 s.h.

6909 Assessment and Intervention for Students with Low Incidence Disabilities. Emphasis will be on current most effective practices of the professional collaboration process across three tiers of service to include specific models and strategies for students in general education and especially those with autism and/or a low incidence disability. Candidates will develop a team training model and will evaluate evidence-based practices. 3 s.h.

6911 International Area Study: Project Learning Around the World. This course is designed to enhance mental health or teacher's professional and personal level of sensitivity and competence via introducing them to innovative and traditional forms of intervention or healing in community and school settings in a developing country. Students will participate in philanthropic activities by helping to gather and deliver educational supplies via Project Learning Around the World (www.platw.org). 3 s.h.

6912 Multilevel Tier Interventions Across General Education and Special Education Programming. Direct experiences in planned multilevel interventions across the three tiers of services within educational school systems for regular education and children with disabilities. Participation in RTI team meetings, curriculum academic and applied and functional behavioral analysis, progress monitoring, goal attainment scaling and determining effectiveness of intervention plans will be introduced. 3 s.h.

7500 Dynamic Assessment I. This course is designed for the school psychology student and includes the administration and interpretation of intelligence tests. The goal of this course is to provide students with a series of

experiences which will lead to student mastery in the administration, scoring, and interpretation of various cognitive instruments and one achievement test. Concurrent: SPSY 7501 and 7502. 3 s.h.

7501 Dynamic Assessment Practicum in School Psychology I. Supervised experience in the administration and scoring of cognitive assessment protocols and demonstration of behavioral observation recording. Concurrent: SPSY 7500 and 7502. 3 s.h.

7502 Cognitive Observation Practicum. Supervised experience in the administration of various psychological instruments. Concurrent: SPSY 7500 and 7501. 3 s.h.

7503 Dynamic Assessment II. This course is designed to provide school psychology candidates with a theoretical foundation and the attainment of assessment skills in the areas of achievement, perceptual-motor, receptive, expressive, written language skills, behavioral, self-concept, emotional, developmental history and adaptive behavior assessment. Concurrent: SPSY 7504 and 7505. Prereq.: Candidates must have obtained a B or better and reached competence in SPSY 7500, 7501, and 7502. 3 s.h.

7504 Dynamic Assessment Child Study Practicum II. Candidates are provided supervised practicum experience utilizing a systematic, ecological approach to child study. Concurrent: SPSY 7503 and 7505. Prereq.: Candidates must have obtained a B or better and reached competence in SPSY 7500, 7501, and 7502. 3 s.h.

7505 Dynamic Assessment Advanced Child Study Practicum III. Candidates are provided with advanced supervised practicum experiences in school systems in the area of child study. Concurrent: SPSY 7503 and 7504. Prereq.: Candidates must have obtained a B or better and reached competence in SPSY 7500, 7501, and 7502. 3 s.h.

7506 Consultation Approaches to Treatment in Schools. This course presents assessment procedures for ecological contexts and client needs within school contexts. Concurrent: SPSY 7507. 3 s.h.

7507 Classroom Assessment and Decision Making. The purpose of this course is to analyze and assess problems related to classroom learning environments, to plan programs to enhance environments, and to implement as well as evaluate plans. The aim of this course is to prepare school psychology students to function effectively within public school classrooms by applying various consultation models. Concurrent: SPSY 7506. 3 s.h.

7508 Neuropsychology, Low Incidence and Learning Behavior. This course is designed to provide the basics of neuroanatomy, specifically, in terms of brain organization and neurological development. Prereq.: SPSY 7500, 7501, and 7502. 3 s.h.

7509 Family Systems Within an Educational Context. The focus of the didactic and experiential course will be on identifying patterns of children's symptoms, repositioning of the therapist within the educational system context and learning of various therapeutic techniques to use with families of children with disabilities or other mental health issues. 3 s.h.

7510 Professional Development Seminar in School Psychology. This course is designed to prepare and ready school psychology candidates for their proposed internship assignment. 3 s.h.

7511 School Psychology Internship Studies. Supervised readings and class discussions in preparation for a 1400-clock-hour internship in school psychology. 3 s.h.

7512, 7513, 7514 Internship/Supervised Experience I, II, III. Designed for those candidates who have been assigned a 1400-clock-hour internship in the state of Ohio under field and university supervision. 6 s.h., 6 s.h., 3 s.h.

7515 Advanced Seminar in School Psychology I. First of two-semester seminars (special topics related to school psychology internship, child study, serving low incidence populations, consultation, RTI and other topics related to the internship experience). Prereq.: concurrent with SPSY 7512. 3 s.h.

7516 Advanced Seminar in School Psychology II. Second of two-semester seminars (special topics related to school psychology internship, child study, serving low incidence populations, consultation, RTI and other topics related to the internship experience). Prereq.: concurrent with SPSY 7513. 3 s.h.

CRIMINAL JUSTICE

Patricia B. Wagner, Chair
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- 5802 Corrections Law and Liability. (3 s.h.)
- 5814 Forensic Science and the Criminal Justice System. (3 s.h.)
- 5820 Advanced Legal Research. (3 s.h.)
- 5825 Criminal Procedures and Constitutional Issues. (3 s.h.)
- 5831 Violence in America. (3 s.h.)
- 5865 Gathering and Using Information in Criminal Justice. (3 s.h.)
- 5875 The Juvenile Justice System. (3 s.h.)
- 5892 Comparative and International Criminal Justice Systems. (3 s.h.)

6910 **Law and Criminal Justice.** An historical analysis of criminal law as a social control. An overview of substantive criminal law and criminal procedural law in the United States. 3 s.h.

6915 **Advanced Criminology.** A comprehensive analysis of the causes of crime from an interdisciplinary perspective. Major criminological theories are considered in light of contemporary empirical research. Prereq.: CJUS 2630. 3 s.h.

6920 **Criminal Justice Studies, Practices, and Theories.** A critical analysis of the field of criminal justice studies including crime statistics, crime causation, the criminal justice process, and the agencies involved. Prereq.: CJUS 1500 Introduction to Criminal Justice. 3 s.h.

6925 **Administration and Management Theory.** Administration and management theory as applied to criminal justice agencies. Includes the functions of the executive, the nature of authority and leadership, organizational communication, and theories of employee motivation. 3 s.h.

6940 **Statistical Techniques in Health and Human Services.** A consideration of the courses of statistical information in the human resource systems and the limits of such data, with primary emphasis upon multivariate statistics and their application to the field. Prereq.: CJUS 6942 or permission of instructor. 3 s.h.

6942 **Research and Statistics in Health and Human Services.** A consolidated statistical and research course in human services to design and use qualitative and quantitative research, use and interpret descriptive and inferential statistics, and evaluate the research of others. Prereq.: CJUS 3710 Social Statistics and CJUS 3712 Criminal Justice Research, or permission of instructor. 3 s.h.

6945 **Research Methods in Health and Human Services.** An analysis of the design and execution of both quantitative and qualitative research in the human services, and the development of research designs most useful to human services research problems. Prereq.: CJUS 6942 or permission of the instructor. 3 s.h.

6950 (A-Z) **Selected Topics Seminar in Criminal Justice.** Addresses specific topics relating to the crime problem and the criminal justice process. The topics may vary from semester to semester and will be announced prior to enrollment. This course is repeatable provided it is on different topics. 3 s.h.

6955 **Independent Study.** Study under the personal supervision of a faculty member with the approval of the graduate director. May be repeated once. 3 s.h.

6957 **Readings in Criminal Justice.** Extensive reading assignments in the student's interest area under the supervision of a graduate faculty member. May be repeated for no more than a total of six semester hours Prereq.: Approval of graduate director. 1-4 s.h.

6960 **Program Planning and Evaluation.** A systematic review and evaluation of human services programs with special attention to the posing of questions in context; questions relating to the selections of design, method, and

- process of summative evaluation; and assessing the effectiveness of programs. 3 s.h.
- 6970 Applied Police Management.** Systematic examination of the principles and practices related to the management of police organizations. Examples will reflect problems of the urban and suburban environments, relationships with political entities, and internal control. 3 s.h.
- 6971 Human Resources in Policing.** Evaluation of police personnel systems, employment qualifications, psychiatric screening, polygraph examination, minority recruitment, and police cadet systems, personnel costs, educational requirements, lateral entry, mandated state minimum training standards, and federal involvement in police manpower. 3 s.h.
- 6980 Managing Correctional Operations.** Historical review of corrections in the United States. Modern theories of correctional administration and organization in both facilities and community settings. Special focus on financial operations, contagious illnesses, security, staff management, corruption, programming, architecture, hostage situations, and community concerns. 3 s.h.
- 6981 Correctional Case Management.** Case management, presentencing investigation, classification, and risk assessment. Analysis of theories of rehabilitation as applied in corrections. Special focus on training, recreation, health care and mental health services, religious programs, and special needs offenders, including sexual and drug offenders. 3 s.h.
- 6990 Criminal Justice Public Policy Seminar.** Types of policy and how policies are formulated are covered. The evaluation of policy, with attention to what constitutes good public policy. Special attention is given to the impact of crime control policies, particularly crime legislation and current laws. 3 s.h.
- 6995 Field Experience in Criminal Justice.** Supervised experience in an applied criminal justice setting. Prereq.: Majority of core and track courses completed and the recommendation of student's committee and approval by graduate director. Permit required. 2-4 s.h.
- 6998 Graduate Paper.** Graduate-level research and a comparable paper under the supervision of the student's major professor. 2 s.h.
- 6999 Research and Thesis.** 1-6 s.h.

ECONOMICS

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- 5801 Economics of Industrial Organization.** (3 s.h.)
5806 History of Economic Thought. (3 s.h.)
5809 Current Problems in Money, Banking, and Financial Markets. (3 s.h.)
5811 International Trade. (3 s.h.)
5812 International Finance. (3 s.h.)
5822 Urban and Regional Economics. (3 s.h.)
5824 Applied Time Series Analysis of Economic and Business Data. (3 s.h.)
5831 Labor Markets. (3 s.h.)
5856 Topics in Quantitative Economics. (3 s.h.)

6900 Statistical Problems. A survey of the fundamental statistical techniques used in business with special emphasis on interpreting the results generated by statistical software. Techniques covered: hypothesis tests of means and proportions, estimation, chi-square tests, analysis of variance, correlation, and regression. Not applicable toward the M.A. in economics. 3 s.h.

6901 Basic Economic Analysis. An introduction to micro- and macroeconomics with emphasis on the use of economic theory in business decision making. This course is designed for professionals in business and other related areas with no previous background in economics. Not applicable toward the M.A. in economics. 3 s.h.

6904 Quantitative Methods for Economics. A course designed to provide graduate students in economics with an opportunity to acquire the necessary skills in using the quantitative methods that are required to complete graduate-level economic theory and econometrics courses successfully. The course introduces the basic concepts and procedures of differential and integral calculus that are used in economic analysis, as well as the fundamental probability and statistics which are needed in the study of econometrics. 3 s.h.

6912 Microeconomic Theory. Study of demand and supply, consumer theory, the theory of the firm, various market structures, and Pareto efficiency. 3 s.h.

6915 Health Policy. A theoretical and empirical analysis of the health care sector. Topics include the demand for health care and health insurance, the perverse incentives of health insurance, moral hazard, physician and hospital behavior, and the role of competitive markets in the delivery of health care. Special emphasis is placed on the analysis of public policy, including financing and regulating the health care industry. Prereq.: ECON 6901 or equivalent. 3 s.h.

6922 Macroeconomic Theory. Examines models used to determine the value of various aggregate economic variables, such as the price level, national income, employment, interest rates, and wage rates. 3 s.h.

6939 The Economics of Financial Markets and Institutions. Study of the institutions, instruments, and markets that facilitate the distribution of financial resources throughout the economy. The course discusses the money, capital, and commodity markets. Also, the topics of accessing default risk and hedging against market risk are discussed. Prereq.: ECON 6901 or equivalent. 3 s.h.

6940 Financial Economics. Study of various topics, including risk and the selection of the optimal monetary control tool, politics and monetary control, the financial firm as an optimizing institution, and portfolio theory. Prereq.: ECON 6939 or permission of the instructor. 3 s.h.

6941 Monetary Economics. Study of the empirical analysis using multivariate time series methods, including the topics of distributed lag models, selection of the appropriate lag structures, causation versus correlation, and cointegration. Prereq.: ECON 6922 or permission of the instructor. 3 s.h.

6945 Public Finance. Study of the role of the government in the economy. The topics covered will include expenditure analysis, theories of taxation, provision of public goods, fiscal federalism, and public choice theory. Prereq.: ECON 6912. 3 s.h.

6946 State and Local Public Finance. Study of the special problems of financing subnational governments. Topics include the optimal level of local government spending, public choice through voting, public choice through migration, the combination of taxes used by state and local governments, the theory of tax incidence, the effect of intergovernmental grants, and expenditure patterns of local governments. Special attention will be given to local governmental grants and expenditure patterns of local governments, as well as local governments' role in financing education and transfer payments. Prereq.: ECON 6901 or equivalent. 3 s.h.

6950 Labor Market Theory. A theoretical analysis of the operation of the labor market. The topics covered will include the demand for labor, supply of labor, household production, labor market discrimination, the effects of transfer programs, and the role of unions in the labor market. Prereq.: ECON 6901 or equivalent. 3 s.h.

6952 Transfer Programs and Poverty. A study of poverty and the effectiveness of antipoverty programs. Topics include defining and measuring poverty, trends in the rate of poverty and the distribution of income, causes of poverty, models of discrimination, effectiveness of government training programs, transfer programs and their effect on labor supply, and the financial stability of the Social Security retirement program. Prereq.: ECON 6901 or equivalent. 3 s.h.

6955 Antitrust and Market Structure. Study of the pivotal court decisions that have determined the direction of antitrust law. Concentration is on the economic analysis of court decisions and the impact of the courts' decision on

market structure. Topics covered include price fixing, mergers, monopolization, and exclusion practices. Prereq.: ECON 6901 or equivalent. 3 s.h.

6970 Economics Internship. The practical application of economic knowledge and statistical skills in the workplace. Students assist participating professionals in various kinds of industrial, financial, and public service organizations. By permit only. Prereq.: ECON 6904, 6912, and 6922. May be repeated for a maximum of three semester hours. 1–3 s.h.

6976 Econometrics. Study of the fundamentals of econometric techniques that are useful for estimating causal economic relationships. The objectives include (1) analysis of the effects of exogenous factors on the variable whose behavior we seek to explain, (2) testing of hypotheses about new and existing economic theories, and (3) forecasting estimated economic relationships beyond the sample period for the purpose of planning and control. The course will focus on the practice of econometrics with extensive applications to a variety of real-world problems in many areas of economics. Prereq.: ECON 6904. 3 s.h.

6981 International Finance. Study of the foreign exchange market; the business and economic consequences of changes in domestic and foreign banking; central banking; and financial market policies. The development of various exchange rate standards, foreign currency markets, and the Eurocurrency and Eurobond markets. Prereq.: ECON 6901 or equivalent. 3 s.h.

6985 International Trade and Development. Study of the determination of a country's exports and imports, the social welfare consequence of trade, free trade versus restricted trade, preferential trading agreements, and the current composition and direction of U.S. trade. Prereq.: ECON 6901 or equivalent. 3 s.h.

6988 Modeling in Financial Economics. A study of modeling and evaluation of derivatives and bonds and risk management using derivatives. Topics cover various models in asset evaluation, such as bond price models, the Black-Scholes model, diffusion processes, and risk management. Also listed as STAT 6988. Prereq.: STAT 5843 or STAT 6943 or ECON 6976. 3 s.h.

6990 Special Topics in Economics. Special interest topics selected by the staff in the following areas: economic education, economic theory, and applied economics analysis. May be repeated for a maximum of six hours toward a graduate degree. 1–3 s.h.

6998 Research Seminar. Applied quantitative research techniques will be discussed. Students are required to undertake an original quantitative research project in a field of economics and write a paper summarizing their results. Prereq.: ECON 6912 and 6922. Course may be taken concurrently with ECON 6976. 3 s.h.

6999 Master's Thesis. A research project under the supervision of a member of the department on the graduate faculty. Prereq.: ECON 6912, 6922, and 6976. 1–6 s.h.

EDUCATIONAL ADMINISTRATION

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6915 Learning, Teaching, and Instructional Leadership. Leadership behaviors and expectations intended to build teacher commitment, increase teaching competence, and improve the learning climate of students. The importance of and role that adult development and learning play in teacher leadership regarding curriculum and instruction decisions are stressed. 3 s.h.

6931 Leadership in Educational Organizations: Theory to Best Practices. Significant theories, research, and professional practices in the leadership of schools and school systems. Detailed analysis of primary sources and application of sources to reflection on issues and problems of administrative practice. 3 s.h.

- 6933 Educational Policy, Politics, and Change.** Explores who governs America's schools. Provides an introduction to schools as political systems and the values that shape educational politics and policy making. Examines the role of school leaders as agents of change and alternative change models and strategies. 3 s.h.
- 6947 School Building Leadership: Models and Processes.** Theories of leadership and schooling that provide future principals with guides for action and behavior will be presented. Theories that shape personal decision-making processes that build schools as learning communities will be presented. 3 s.h.
- 6949 Legal and Ethical Issues in Public Administration.** Defines law and professional ethics and discusses the role of each in public decision making. Explores the status and application of the law in various areas of school operations through the reading of cases, statutes, and constitutional provisions. 3 s.h.
- 6952 School Finance, Resource Planning, and Management.** An analysis of school funding on a state and local level. School budgeting, site-based management, and school business practice are major topics. An action research project is part of the course requirement. 3 s.h.
- 6954 Marketing and Community Relationships.** Stresses effective communication that supports the marketing of school purposes and programs. Leadership skills that build community support and recognize the value of message delivery to targeted audiences in the community will be related to the marketing of schools. 3 s.h.
- 6955 Professional Development and Human Resources.** In-depth examination of policies and practices designed to reconcile the interests of schools and the people who make them up. Topics include professional and staff development, equal employment, position description, recruitment, selection, performance appraisal, removal, compensation, and emerging issues. 3 s.h.
- 6975 Introduction to Administration Clinical Experience.** Differentiated by school level. First clinical experience for candidates for the Master of Science in Education in educational administration designed as an exploratory experience. Students complete tasks in eight competency areas in the master syllabus. Prereq.: Completion of five of the following seven courses: EDAD 6915, 6931, 6933, 6947, 6949, 6954, 6955, and successful passing of all parts of the comprehensive examination. 3 s.h.
- 6982 Independent Study/Action Research.** Individual investigation of advanced topics under the guidance of selected departmental faculty. May be repeated. 1-3 s.h.
- 6990 Seminar in Educational Administration.** A seminar designed for the development of particular skills and/or perspectives on a topic related to educational administration. 1-3 s.h.
- 6993 Special Topics in Educational Administration.** Prereq.: Admission to master's degree program in educational administration. 1-4 s.h.
- 6995 Workshop in Educational Administration.** A workshop designed for the development of particular skills and/or perspectives on a topic related to educational administration. 1-3 s.h.
- 7014 Systematic Use of Information for Continuous School Improvement.** Information systems concepts: analysis, design, implementation, and evaluation applied to individual, school, and program evaluation and improvement. Experience with information retrieval and synthesis from local and state educational databases. An action research project is a major course requirement. 3 s.h.
- 7018 School Discipline and Student Support Services: Policies, Programs, and Prevention Strategies.** Examines school discipline and youth problems that threaten student health, welfare, and safety and research-proven school programs for addressing such problems. Emphasizes the role of school leaders in developing and implementing comprehensive policies and student support programs. 2 s.h.
- 7022E Clinical Experience: Elementary Principalship.** Completed in a school covered by an elementary teaching certificate or license. Second administrative clinical experience designed to highlight building-level tasks. Students are required to complete six tasks from the master syllabus and an integrated project, at the direction of an elementary building principal. Prereq.: Completion of three of the following courses: EDAD 7014, 7018, SPED 7077, EMCE 6921. 3 s.h.

7022M Clinical Experience: Middle School Principalship. Completed in a school covered by a middle school teaching certificate or license. Second administrative clinical experience designed to highlight building-level tasks. Students are required to complete six tasks from the master syllabus and an integrated project, at the direction of a secondary building principal. Prereq.: Completion of three of the following courses: EDAD 7014, EDAD 7018, SPED 7077, TEMC 6941. 3 s.h.

7022S Clinical Experience: Secondary Principalship. Completed in a school covered by a secondary teaching certificate or license. Second administrative clinical experience designed to highlight building-level tasks. Students are required to complete six tasks from the master syllabus and an integrated project, at the direction of a secondary building principal. Prereq.: Completion of three of the following four courses: EDAD 7014, 7018, SPED 7077, SED 6931. 3 s.h.

7024 Collective Bargaining and Systems Issues in Human Resources Administration. Human resources issues from the central office perspective. Statutory, regulatory, and political contexts for public sector collective bargaining. Conceptual and experiential treatment of traditional and interest-based bargaining. Approaches to human resources policy development. Grievances and management of written agreements. 3 s.h.

7025 Educational Governance: Advanced Law and Policy Seminar. Explores emergent legal developments affecting P-12 education systems and the role and limits of the law in promoting educational emergent reform. Reviews social science literature on governance issues and factors that affect the nature, degree, and rate of organizational compliance. 3 s.h.

7026 Technology and Facilities for Learning Organizations. Due to increasing demands upon the educational facilities by the instructional use of technology and the need to prepare students for the world of work, facility management and integration of technology into the facility are examined. 3 s.h.

7035 The Superintendency and Evolving Ways of Looking at Leadership. This course examines the role of superintendent in the administration of schools. Students will study leadership in complex social organizations so that they can apply current theory and research to their roles in complex, chaotic, educational environments. 3 s.h.

7040 Clinical Practice for the Administrative Specialist. Candidates for administrative specialist licenses in areas of curriculum, instruction, and professional development or pupil services administration develop an individualized clinical plan and complete a set of tasks and an integrated project aligned with professional standards under the guidance of an appropriately licensed cooperating administrator. Prereq.: Candidates must have completed all or be currently enrolled in remaining courses that compose the requirement of respective specialist license. 3 s.h.

7050 Clinical Experience: Superintendency. Candidates for the superintendency license are required to complete four tasks from the master syllabus at the district-wide level, supervised by a school superintendent. Major components are the complete analysis of the financial structure of the candidate's school district and a system-level integrated project. Prereq.: Completion of three of the following four courses: EDAD 7024, 7025, 7026, 7035, and two years experience in a building-level administrative capacity or equivalent. 3 s.h.

8100 Professional Skill Development Seminar. A doctoral student induction program, which includes intensive writing, research, and technology strands. The purpose is to assess the student's abilities as a doctoral student and begin the appropriate strategies necessary for successful completion of the doctoral program. Prereq.: Admission to the doctoral program. 3 s.h.

8122 Leadership in Education. In this course students will critically analyze contemporary ways of thinking about leadership. As students examine their present paradigm of leadership, they will also analyze a reconfiguration of leadership that reflects developments in the new sciences and other fields. Prereq.: Admission to the doctoral program. 3 s.h.

8125 Educational Politics and Policy Making in the United States. Reviews professional literature on politics and policy making at the local, state, and federal level, including the values, institutional actors, processes, and interest groups that shape educational policy. Explores means of identifying problems, analyzing policy alternatives, and measuring policy outcomes. Prereq.: Admission to the doctoral program. 3 s.h.

8140 Seminar in Administrative Theory. Extension of the administrator's abilities to analyze professional problems, develop leadership strategies, and exercise sound decision making. Nontraditional (nonfunctionalist) theories are stressed, with emphasis on deconstructing and purposefully framing educational issues. Case studies strengthen the application of the theories. Prereq.: Admission to the doctoral program. 3 s.h.

8155 Seminar in Current Educational Issues. Informing educational leaders about contextual issues of schools is necessary in order to understand and recognize that school reform, both at the time of its proposal and during the developmental stages of its implementation, is intended to ameliorate educational problems. Prereq.: Admission to the doctoral program. 3 s.h.

8180 Special Topics in Educational Leadership. Selected topics for a focused study on problems, issues, or concerns that relate to educational leadership. Prereq.: Admission to the doctoral program. 1-3 s.h.

8185 Seminar in Educational Research/Dissertation Proposal. The purpose of this course is to gain knowledge and skills in developing a research question and an appropriate methodology so that chapters I and II of a doctoral dissertation can be completed. Prereq.: FOUN 8104, 8110, 8112, and 8114. 3 s.h.

8190 Dissertation Study. Covers the design, proposal, conduct, reporting, and defense of scholarly research that addresses a meaningful topic derived from and contributing significantly to the literature of the field. Prereq.: Completion of doctoral comprehensive examination. 1-9 s.h.

8931 Leadership in Educational Organizations. Significant theories, research, and professional practices in the leadership of schools and school systems. Detailed analysis of primary sources and application of sources to reflection on issues and problems of administrative practice. Prereq: Admission to the Ed.D. program in Educational Leadership. Ed.D. students who have not taken EDAD 6931 are required to complete EDAD 8931 and include a supplemental, substantive course assignment that relates to their intended area of specialization. 3 s.h.

8949 Legal and Ethical Issues in Public Administration. Defines law and professional ethics and discusses the role of each in public decision making. Explores the status and application of the law in various areas of school operations through the reading of cases, statutes, and constitutional provisions. Prereq: Admission to the Ed.D. program in Educational Leadership. Ed.D. students who have not taken EDAD 6949 are required to complete EDAD 8949 and include a supplemental, substantive course assignment involving original research using primary source materials in education law and policy. 3 s.h.

EDUCATIONAL TECHNOLOGY

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5899 Integration of Instructional Computing. (3 s.h.)

6905 Technology in Instructional Settings. This course provides an introduction to the technological issues, theories and skills used in instructional settings. EDTC 6905 covers current technologies (equipment and software) that facilitate productivity and/or instructional practice. Discussions and projects can be adapted for various target audiences. This course may not be used to satisfy the requirements for the technology endorsement, but this must be taken before technology endorsement courses are taken, unless a comparable course has been taken that satisfies the prerequisite. 3 s.h.

6920 Instructional Design. Focuses on a systematic method for the design and development of instruction. Relevant literature reviewed. Candidates will apply instructional design principles and practices. Portions of the course may be offered on-site, on-line, or as a combination. Prereq: EDTC 3771 or EDTC 6905, or permission of instructor. 3 s.h.

6930 Instructional Multimedia Authoring. This course focuses on the application of instruction design principles to the design and development of a multimedia instructional program. Portions of the course may be offered on-site, on-line, or as a combination. Prereq.: EDTC 3771 or EDTC 6905, or permission of instructor. 3 s.h.

6940 Distance Education and Online Information Dissemination. Focuses on various aspects of distance education and online dissemination from planning to delivery. Social, legal, and ethical issues will also be covered. Portions of the course may be offered on-site, on-line, or as a combination. Prereq.: EDTC 3771 or EDTC 6905, or permission of instructor. 3 s.h.

6945 Action Research in Educational Technology. Focuses on action research as it applies to educational technology. Topics include research questions, methods, data collection and analysis, and conclusions. Portions of the course may be offered on-site, on-line, or as a combination. Prereq.: Admission to program and demonstration of NETS-T competency. 3 s.h.

6950 Principles, Processes, and Supervision of Networking. Provides theoretical foundation and hands-on experience needed for individuals who supervise the installation and/or operation of a network. Topics include hardware/software, system analysis and design, protocols, security, and case studies. Prereq.: EDTC 3771 or EDTC 6905, or permission of instructor. 3 s.h.

6960 Educational Technology and Professional Development. Focuses on the needs of the adult learner in educational technology professional development situations. Related learning theory, professional development models, and applications will be covered. Portions of the course may be offered on-site, on-line, or as a combination. Prereq.: EDTC 3771 or EDTC 6905, or permission of instructor. 3 s.h.

6965 Technology Planning for Instructional Environments. Focuses on designing, developing a technology plan, and evaluating facilities and resources. Topics include hardware/software, staff development, curriculum integration, accessibility, legal and ethical considerations, and funding. Portions of the course may be offered on-site, distance learning, or as a combination. Prereq.: EDTC 3771 or EDTC 6905, or permission of instructor. 3 s.h.

6985 Portfolio in Educational Technology. Designed to highlight candidate's knowledge of educational technology. Candidates may modify assignments from prerequisite courses to demonstrate knowledge and skills; modifications will not alter grades earned in other EDTC courses. Portfolio reviewed by EDTC faculty. Must be taken during the same semester as EDTC 6990 and successfully completed by the end of the fifth week of the semester. Prereq.: Admission to program and EDTC 6920, 6930, 6940, 6945, 6950, 6960, and 6965. 1 s.h.

6990 Practicum in Educational Technology. Requires that the graduate candidate perform educational technology tasks in an instructional setting for a minimum of 30 clock hours. Candidate must enroll in this course during the same semester as EDTC 6985. Course completed in the last 10 weeks of the semester. Prereq.: Admission to program and EDTC 6920, 6930, 6940, 6945, 6950, 6960, 6965, 6985. 2 s.h.

ELECTRICAL AND COMPUTER ENGINEERING

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- 5800 Special Topics. (1-3 s.h.)
- 5807 Advanced Digital and Analog Circuits. (3 s.h.)
- 5808 Signals and Systems. (3 s.h.)
- 5816 Theory and Fabrication of Solid-State Devices. (3 s.h.)
- 5817 Sensor Design and Application. (3 s.h.)
- 5830 Digital Signal Processing. (3 s.h.)
- 5835 Computer Architecture with VHDL. (4 s.h.)

5840 Electric Power Systems. (4 s.h.)
 5850 Communications Applications. (3 s.h.)
 5860 Energy Radiation and Propagation. (3 s.h.)
 5879 Computer-Aided Design. (3 s.h.)
 5890 Power Electronics. (4 s.h.)

6900 Seminar. May be repeated once. 1–3 s.h.

6901 Control Systems I. Fundamental concepts in linear system theory. matrix algebra, linear vector spaces, linear operators. Input-output and state-space models for continuous-time systems; canonical forms. Solutions of state space equations. Characteristics of linear systems: stability; controllability and observability. State variable feedback; introduction to state estimation. 3 s.h.

6902 Control Systems II. State-variable feedback techniques; design of state estimators. Design using polynomial equations. Design of digital controllers: discrete equivalents and direct methods. Introduction to implementation of digital control systems. Prereq.: ECEN 6901. 3 s.h.

6903 Advanced Control Systems. Introduction to nonlinear control systems: basic nonlinear phenomena, describing functions, Lyapunov stability, linearization techniques. Introduction to linear optimal quadratic control; stochastic modeling and Kalman filtering. Prereq.: ECEN 6902. 3 s.h.

6911, 6912 Electromagnetic Fields I and II. Solution of boundary value problems in general form. Laplace, Poisson, and diffusion and wave equations in orthogonal coordinate systems. 3+3 s.h.

6933 Digital Systems: VHDL Design. Local minimization, design of combinational networks; design of synchronous and asynchronous sequential machines; design of digital systems using VHD, modeling combinational and sequential networks, compilation, simulation, and synthesis of VHDL codes. 3 s.h.

6934 Digital Systems: Computer Arithmetic. Number system representations: standard and unconventional formats. Design of two-operand and multi-operand fast adders. High-speed multiplication and division algorithms. Floating-point numbers, algorithms, and error control. Hardware algorithms for function evaluation. Prereq: ECEN 6933. 3 s.h.

6981 Electric Power System Engineering. The formulation of equations to study electric power network problems, including feeders, power flow, short circuits, protection systems, and stability. The study of power system over-voltages and transients caused by short circuits, switching, and lightning. The application of numerical techniques to study and design special projects using digital computations. 3 s.h.

6983 Modern Power Sources. Analytical and descriptive study of modern power plants. Combustion and environmental problems with fossil-fueled power plants. Electromagnetic circuits and devices with emphasis on the principles of electromechanical energy conversions. Cross-listed with CHEN 6983 and MECH 6983. 3 s.h.

6985 Electromechanical Motion Devices. Thermodynamics of batteries, and of electric and fuel cells. Power from nuclear isotopes. Features common to rotating electromagnetic fields. Analysis and design of electromechanical power components. Logic circuit design with I/O structure and interface. Cross-listed with CHEN 6985 and MECH 6985. 3 s.h.

6986 Power Electronics Circuits and Devices. The design and analysis of power electronic circuits using solid-state switching devices. Topics include power semiconductor diodes and transistors, diode circuits and controlled rectifiers, thyristors, communication techniques, AC voltage controllers, and switching regulators, with applications. 3 s.h.

6987 Power Electronics and Industrial Drives. The design and analysis of power electronic circuits and systems, static switches, power supplies, AC and DC drives, and protection of power electronic devices and circuits. 3 s.h.

6988 Nano- and Micro-Electro Mechanical Systems. NEMS and MEMS fabrications, elastic system structure, membranes and plates, magnetically actuated systems, continuum theory and scaling laws. Microfluidics and

- nanofluidics devices. Prereq.: Graduate standing. 3 s.h.
- 6990 Thesis. 1-6 s.h.

ENGINEERING AND TECHNOLOGY

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6920 Project Planning and Management. Methods for planning, organizing, scheduling, supporting, and controlling projects. Network techniques, including CPM, PERT, and time-cost trade-off analysis. Techniques for the estimation of time, manpower, and other resource requirements of the projects, including economic and statistical analysis, forecasting, learning curves, and line balancing. Management of time and other resources involved. Case studies and utilization of computer resources for the analysis and presentation of projects. Prereq.: Graduate standing or permission of instructor. 3 s.h.

6921 Engineering Statistics. Development and application of stochastic models of engineering systems. Elementary probability models applied to decision making under uncertainty. Development and use of theoretical probability distributions for describing stochastic systems. Models for point and confidence interval estimation and models for correlation analysis applied to engineering problems. Prereq.: MATH 2674. 3 s.h.

6922 Engineering Systems Analysis. Formulation and solutions of mathematical models in the engineering field. Analysis includes frequency and time response, boundary value problems, and state space variables. 3 s.h.

6923 Information Technology Tools For Engineers. Accessing information through library databases, newsgraphs, WWW sites, etc. Using synchronous and asynchronous communication through web-based technologies. Information content creation, HTML client/server computing and their application in the engineering domain will be covered. 3 s.h.

6924 Computer Based Tools For Engineers. Computer simulation of engineering models used in different engineering disciplines. The computer tools will include mathematical solvers and spreadsheets. Numerical solutions of linear and non-linear equations and ordinary and partial differential equations. Prereq.: ENGR 6922. 3 s.h.

6925 Applied Environmental Management. Practical application of environmental management practices in industry, with emphasis on regulatory compliance and international standards (ISO 14000). Areas of focus include monitoring of emission sources, air and water pollution control, solid and hazardous waste management, pollution prevention, employee health and safety, and property development and transfer. 3 s.h.

ENGLISH

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6900 Methods of Literary Research. Basic concepts and methods of literary research and analysis. 3 s.h.

- 6901 Methods of Composition Research.** Theories and methods of composition research; emphasis on strategies for conducting, analyzing, and writing about classroom and workplace studies. 3 s.h.
- 6902 Literary Thought.** May focus on particular theoretical approaches or provide an overview of literary criticism. May be repeated once with a different topic. 3 s.h.
- 6906 Teaching of Literature.** Problems, issues, practices, and research that affect the teaching of literature at various grade levels and in college courses. 3 s.h.
- 6907 Teaching of Writing.** Problems, issues, practices, and research that affect the teaching of writing at various grade levels and in college courses. 3 s.h.
- 6911 The Medieval World.** Study of selected literary works reflecting medieval thought and culture. May be repeated once with a different topic. 3 s.h.
- 6912 Sixteenth- and 17th-Century British Studies.** Nondramatic literature of the British Renaissance. May be repeated once with a different topic. 3 s.h.
- 6913 Shakespeare and Renaissance Drama.** Varying emphases on the dramatic works of Shakespeare and/or his contemporaries. May be repeated once with a different topic. 3 s.h.
- 6914 Restoration and 18th-Century British Studies.** Prose, poetry, and/or drama of the period studied in historical and cultural context and from various critical perspectives. May be repeated once with a different topic. 3 s.h.
- 6915 Early American Studies.** Prose, poetry, and/or drama from the colonial period up to the early 19th century examined in their historical and cultural contexts. May be repeated once with a different topic. 3 s.h.
- 6916 Nineteenth-Century British Studies.** Prose, poetry, and/or drama of the period studied in historical and cultural context and from various critical perspectives. May be repeated once with a different topic. 3 s.h.
- 6917 Nineteenth-Century American Studies.** Examines 19th-century American literature and culture through particular themes, genres, styles, periods, and/or figures. May be repeated once with a different topic. 3 s.h.
- 6918 Studies in Children's Literature.** Contemporary children's literature. Emphasis may be on development, trends, critical standards, cultural context, classroom selection and use. May be repeated once with a different topic. 3 s.h.
- 6919 Studies in Young Adult Literature.** Contemporary young adult literature. Emphasis may be on development, trends, critical standards, cultural context, classroom selection and use. May be repeated once with a different topic. 3 s.h.
- 6920 Twentieth-Century British Studies.** Prose, poetry, and/or drama of the period studied in historical and cultural context and from various critical perspectives. May be repeated once with a different topic. 3 s.h.
- 6921 Advising Student Publications.** A study of the role and responsibilities of the publication advisor in high school and college. Topics include the unique legal and ethical concerns of student publications, the training of writers and editors, the relationship of the student press to the academic administration, and a range of publication-management concerns. 3 s.h.
- 6922 Twentieth-Century American Studies.** Examines works in relation to the history and social and cultural developments of the period. Nonliterary texts may be included, such as film, visual arts, and music. May be repeated once with a different topic. 3 s.h.
- 6923 Working Class Literature.** A study of working-class literature, culture, and artistic production, with emphasis on the literary history, the material conditions, and the intersection of race, ethnicity, gender, and sexual orientation in the works of literature by and about the working class. 3 s.h.

- 6927 Historical Survey of Literature for Young People.** Survey of historical developments from the 18th through mid-20th centuries in British and American literature for young people. 3 s.h.
- 6935 Studies in Romanticism.** Prose, poetry, and/or drama of the period studied in historical and cultural context and from various critical perspectives. May be repeated once with a different topic. 3 s.h.
- 6943 Technical Communication.** In-depth discussion of audience, format, document design, and corporate structure. Focus on refining skills and providing theoretical support for practical applications. Prereq.: ENGL 3743 Professional and Technical Communication and ENGL 4849 Professional and Technical Editing or ENGL 6949. 3 s.h.
- 6944 Document Design and Production.** Application of computer software and hardware to design and produce professional/technical documents. 3 s.h.
- 6945 Theory of Professional and Technical Communication.** Examines theory and research in professional and technical communication with emphasis on the application of theoretical concepts and empirical findings to practical problems in the field. Introduces students to theories and research methods through reading in current literature and through class research projects. 3 s.h.
- 6946 Historical Editing.** Project-based approach to theoretical and practical aspects of editing historical and literary documents for both print and digital contexts. Topics include document selection, transcription, verification, and annotation, as well as the implications for teaching and learning using traditional print and electronic archives and texts. Cross-listed with HIST 6946. 3 s.h.
- 6949 Professional and Technical Editing.** A study of the skills needed to make appropriate changes in the content, grammar, mechanics, style, format, and organization of manuscripts for scholarly, trade, journalistic, and other professional publications. The course deals with stages in the publishing process, hard-copy versus online editing, mechanical and substantive editing, and the use of house and press styles. 3 s.h.
- 6950 Sociolinguistics.** An investigation of the relationship between language and society. Includes discussion of dialects and standard languages, language planning, linguistic identity, multi- and bilingualism, class, gender, ethnicity, and social interaction. 3 s.h.
- 6951 Language Acquisition.** A study of research on the learning of first and second languages. Topics include developmental sequences, learner variables, critical periods and conditions for learning, and the roles of input and interaction. The course is designed for those planning to teach languages. 3 s.h.
- 6953 Publications Issues and Management.** Exploration of the issues involved in managing and producing professional publications, including publications in students' own fields. Focus on organizational, editorial, and authorial voice; editorial policies; audience analysis; and the processes by which publications are conceived, designed, and produced. 3 s.h.
- 6955 Advanced Linguistics.** In-depth study of selected issues in contemporary linguistic theory. 3 s.h.
- 6956 TESOL Methods.** Introduction to teaching English as a second language (ESL), including reading, writing, listening, and speaking. Focus will be on using communicative methods with nonnative speakers. 3 s.h.
- 6957 TESOL Practicum.** Supervised teaching in an English as a second language (ESL) program. Additionally, weekly seminar attendance is required. 3 s.h.
- 6958 English Grammar.** Descriptions and analysis of English grammar structure. 3 s.h.

6960 Studies in Linguistics. Examines a specific topic such as stylistics, semantics, sociolinguistics, second language acquisition, TESOL, or computational linguistics. May be repeated twice with a different topic.

3 s.h.

6963 Perspectives in Multicultural Studies. An advanced study of primary and secondary texts from the field of multicultural literature and multicultural education. The course will emphasize the formation of social identities, the intersections of race, class, and gender, relationships among dominant and nondominant subjects in U.S. and other global cultures. The course will pay special attention to the theory and application of multiculturalist paradigms to education, professional work, and graduate study. May be repeated once with a different topic.

3 s.h.

6965 Studies in Film. Analysis of motion pictures and their creators; topics may include classic and contemporary styles, genres, and methods of production, as well as film theory and criticism. May be repeated once with a different topic.

3 s.h.

6966 Writing of Poetry. Discussion and application of approaches, techniques, and forms involved in the writing of poetry. May be repeated once with a different topic.

3 s.h.

6967 Writing of Prose. Discussion and application of approaches, techniques, and forms involved in the writing of fiction and/or nonfiction. May be repeated once with a different topic.

3 s.h.

6968 Studies in Literary Form. Examines forms such as poetry, the novel, the short story, essay, biography, autobiography, or travel literature. Emphasis may be on definition, development, cultural context, figures, or themes. May be repeated once with a different topic.

3 s.h.

6974 English Education Workshop. Intensive study and activity in a topic related to teaching English and the language arts. Does not count toward degree credit. Grading is S/U. May be repeated.

1-3 s.h.

6975 English Education Seminar. Approaches to teaching English and the language arts. May be repeated once with a different topic.

1-3 s.h.

6976 Studies in English Education. Theories, issues, and/or criticism in the teaching of English. May be repeated once with a different topic.

3 s.h.

6989 Teaching Practicum. Techniques and strategies for teaching college composition, including course design and classroom practice. Required of and limited to graduate assistants who are teaching in the English Department. First-year graduate assistants must register for three semester hours of Teaching Practicum in two successive semesters for a total of six semester hours. Does not count toward degree credit. Grading is S/U.

1-3 s.h.

6990 Special Topics. May be repeated once.

3 s.h.

6991 Special Topics M.F.A. Special topics in literature and creative writing for students in the Master of Fine Arts (M.F.A.) program in creative writing. May be repeated once. Prereq.: Acceptance in the M.F.A. program.

3 s.h.

6992 Professional Communication. Focus on a selected topic in technical writing or professional communication (e.g., proposal writing, science writing, computer documentation, nonfiction prose). May be repeated once with a different topic.

3 s.h.

6993 Discourse Theory. Examination and discussion of contemporary theories of discourse analysis, with some attention to the history and development of rhetorical theory.

3 s.h.

6997 English Internship. Supervised work-and-learning experience in English under the direction of an English Department faculty member and an employee of a participating firm. Ten to 20 hours a week of student time are expected. Enrollment is contingent upon the availability of internships. Students are selected on the basis of personal qualifications, including GPA, courses taken, recommendations, and an interview. Either ENGL 6997 or ENGL 6998 Professional Writing Internship may count toward the degree—not both.

1-3 s.h.

6998 Professional Writing Internship. Supervised work-and-learning experience in professional communication under the direction of a University faculty member and an employee of a participating firm. Ten to 20 hours a week of student time are expected. Enrollment is contingent upon the availability of internships. Students are selected on the basis of personal qualifications, including GPA, courses taken, recommendations, and an interview. Either ENGL 6997 English Internship or ENGL 6998 may count toward the degree—not both. 1–3 s.h.

6999 Thesis. Prereq.: Thesis proposal accepted by departmental committee. 1–3 s.h.

ENVIRONMENTAL STUDIES

See Geological and Environmental Sciences.

FINANCE

See Accounting and Finance.

FOREIGN LANGUAGES AND LITERATURES

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5850 Sociolinguistics. (3 s.h.)

5851 Language Acquisition. (3 s.h.)

6900 Seminar. Study of selected topics common to several or all of the following languages: French, German, Italian, Spanish, Russian, and Latin. The topic will be announced each time the course is offered. May be taken three times for credit if content is not repeated. Prereq.: Proficiency in at least one of the languages taught by the department. 3 s.h.

6905 Technology in Foreign Language Teaching. Second language acquisition theory and practice. Application of preexisting course enhancing software and development of interactive, multimedia lessons. Practical uses of the web for expanding classroom instruction. 3 s.h.

6921 Foreign Language for Reading I. Intensive study of grammar and vocabulary in a foreign language with the goal of conducting scholarly research using materials available in that language. By the end of the course, students will be able to read some materials in the target language for content. Prereq: Graduate standing and permission of chair of department in which student is enrolled. 3 s.h.

6922 Foreign Language for Reading II. Continuation of FNLG 6921 with emphasis on translation. By the end of the course students will be able accurately to translate materials in the target language. Prereq: FNLG 6921 and permission of chair in department in which student is enrolled. 3 s.h.

6923 Foreign Language for Reading. Intensive study of grammar and vocabulary in a foreign language with the goal of conducting scholarly research using materials available in that language. May be repeated when level at which the language studied rises or if a different language is being studied. Prereq.: Graduate standing and permission of chair of department in which student is enrolled. 3 s.h.

FRENCH

6901 Special Topics in French. Arranged course for graduate students only. Prereq.: Two 4800-level courses in French with grade of B or better. 3 s.h.

GERMAN

6901 Special Topics in German. Arranged course for graduate students only. Prereq.: Two 4800-level courses in German with grade of B or better. 3 s.h.

ITALIAN

6901 Special Topics in Italian. Arranged course for graduate students only. Prereq.: Two 4800-level courses in Italian with grade of B or better. 3 s.h.

SPANISH

5855 Topics in Spanish Language and Linguistics. (3 s.h.)

5870 Topics in Spanish Literature: Spain. (3 s.h.)

5885 Topics in Hispanic Literature and Cinema. (3 s.h.)

5890 Topics in Spanish Literature: Spanish America. (3 s.h.)

6901 Special Topics in Spanish. Arranged course for graduate students only. Prereq.: Two 4800-level courses in Spanish with grade of B or better. 3 s.h.

FOUNDATIONS OF EDUCATION

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5875 Seminar in Foundations of Education. (1-3 s.h.)

5880 Special Topics in Foundations of Education. (1-3 s.h.)

6901 Philosophical Analysis of Education. A philosophical examination and critical reflection on educational theories, including a familiarization with historical contexts and socio/cultural conditions that fostered and related resistance to these theories. 3 s.h.

6902 Sociological Bases of Education. Selected sociological concepts and theories will form the basis for a critical analysis of schooling. Special attention will be given to the emergence of schools and to how schools serve diverse populations. 3 s.h.

6904 Introduction to Educational Research. Basic methodologies and techniques of educational research design and elementary statistical concepts are introduced. This course relies on critical thinking and analytical discourse for the examination and evaluation of research studies. 3 s.h.

6905 Educational Challenges in Historical Perspective. Critical analysis of first-person and other historical accounts of teachers, students, communities, and school reforms as they inform curricular, professional, and social challenges that face educators in their communities today. 3 s.h.

6914 Statistical Methods in Education. An introductory course in frequency distributions, measures of central tendency, measures of variability, calculations and meaning of percentiles, normal distribution theory, reliability and validity of measures, and basic statistical analysis. Prereq.: FOUN 6904. 3 s.h.

6982 Independent Study/Action Research. Individual investigation of advanced topics under the guidance of selected department faculty. May be repeated. 1-3 s.h.

6990 Advanced Seminar in Foundations of Education. Selected topics for an advanced study of a topic to be addressed from a sociological, historical, philosophical, assessment, or research perspective. Prereq.: Completion of a master's degree or advanced licensure. 1-3 s.h.

6995 Workshop in the Foundations of Education. A workshop designed for the development of particular skills and/or perspectives on a school-related topic. 1-3 s.h.

8102 Perspectives on Leadership Among Diverse Populations. An explorative study of constructs and concepts of cultural diversity within groups based on notions of class, race, sex, ethnicity, ableness, and religion/spiritualities. Consideration of expectations and organizational practices as informed by diversity issues. Prereq.: Doctoral admission and one of the following: FOUN 6901, 6902, or 6905. 3 s.h.

8104 Research Strategies in Educational Administration. An examination of major research methodologies and a preview of the different paradigms and assumptions that underlie controlled disciplined inquiries. Techniques associated with particular methodologies in educational administration will be introduced, and their strengths and weaknesses will be analyzed. Prereq.: FOUN 6904. 3 s.h.

8110 Theories of Inquiry. Perspectives for critical analysis, investigation of ways of knowing, and an examination of criteria that have been used successfully for negotiating status and justifying claims within contested domains of inquiry. Prereq.: Doctoral admission and FOUN 6901. 3 s.h.

8112 Qualitative Research for Educators. Consideration of traditional and evolving qualitative method and literatures that apply to doctoral study of problems in teaching, school leadership, and school change. Prereq.: FOUN 8110. 3 s.h.

8114 Advanced Research Design and Statistics. An in-depth treatment of the major correlational, experimental, and quasi-experimental research designs and associated statistical analyses, including the design and analysis of surveys and factor analytic techniques. Experience in data analysis using SPSS or other statistical packages. Prereq.: FOUN 8110. 3 s.h.

GEOGRAPHY

Craig S. Campbell, Chair
2034 Cushwa Hall
(330) 941-3317
cscampbell@ysu.edu

5802 Biogeography. (3 s.h.)

5805 Remote Sensing I. (3 s.h.)

5806 Remote Sensing II. (3 s.h.)

5810 Geographic Information Science I. (3 s.h.)

5811 Geographic Information Science II. (3 s.h.)

5812 Global Positioning Systems and GIScience. (3 s.h.)

5814 3D Modeling and GIS. (3 s.h.)

5820 Special Problems in Geography. (1-3 s.h.)

5850 International Area Study. (3 s.h.)

6980 Geography Education Workshop. Intensive study and activity in a topic related to teaching geography. Grading is S/U. May be repeated with a different topic. Prereq.: Graduate standing and permission of the instructor. 1-3 s.h.

GEOLOGICAL AND ENVIRONMENTAL SCIENCES

Jeffrey C. Dick, Chair
2119 Moser Hall
(330) 941-1756
jcdick@ysu.edu

GEOLOGY

5802 Sedimentology and Stratigraphy. (3 s.h.)

5805 Special Problems in Geology. (1-4 s.h.)

5815 Geology and the Environment II. (3 s.h.)

5817 Environmental Geochemistry. (3 s.h.)

6900 Geology Workshop. Intensive study and activity in a topic related to geology or geoscience education. May be repeated once. Grading is S/U. Prereq.: Permission of instructor. 1-6 s.h.

6901 Geology of Ohio and Pennsylvania. The geologic history and development of the rocks, structure, landforms, and mineral resources of Ohio and Pennsylvania. Prereq.: GEOL 5802 or equivalent. 3 s.h.

6910 Advanced Aquifer and Well Hydraulics. Computer-based test analyses; heat flow in the subsurface; and modeling of groundwater flow and contaminant transport. Prereq: Permission of instructor. 3 s.h.

6950 Selected Topics in Geology. Addresses specific topics in geology. The topics may vary and will be announced prior to registration. The course may be repeated provided different topics are addressed. 1-3 s.h.

ENVIRONMENTAL STUDIES

5800 Environmental Impact Assessment. (3 s.h.)

5810 Environmental Safety. (1 s.h.)

5820 Sustainability, Climate Change and Society. (3 s.h.)

5830 Risk Assessment. (3 s.h.)

5860 Environmental Regulations. (3 s.h.)

6900 Advanced Environmental Studies. A study of the principles and issues of environmental science, health, technology, and affairs. Topics will include contaminant chemistry; terrestrial and aquatic ecology; risks to human health; waste management; conservation; and sustainable development, energy, and pollution. Local, regional, and global issues will be studied. 3 s.h.

6901 Sources of Contamination. A study of the sources and fate and transport of air, water, and soil contaminants that have potential to adversely affect human health and the environment. Topics will include measurement of environmental parameters, data collection and reporting, interpretation of results, compliance issues, and economic implications. 3 s.h.

6905 Teaching Methods in Geology and Environmental Science. A required course for all Department of Geological and Environmental Sciences graduate teaching assistants. This course will provide guidance and instruction in teaching introductory laboratories in the department. 2 s.h.

6910 Environmental Management Systems Standards (ISO 14001). Introduction to establishing a program to set internal industrial standards to identify, measure, and control the environmental impact of their activities, products, and services, including environmental policy, communication, legal requirements, training, documentation, and emergency preparedness. 1 s.h.

6920 Environmental Compliance. Regulatory compliance concerning operations of environmental and health and safety departments. RCRA permitting (NPDES and air emissions), landfilling, Right to Know, waste generation, storage, shipping (manifests and placarding), disposal of wastes, MSDS, OSHA regulations, safe work practices, hiring consultants (technical and legal), writing requests for proposals, and documenting and report writing. Prereq: ENST 5860, 6900, or equivalent. 3 s.h.

6921 Industry/Institutional Management for the Environmental Professional. A comprehensive background in management principles and operations relating to the environmental professions. Topics include budgeting, staffing, scheduling, leadership, and quality assurance/control. The student will learn to write, evaluate, and implement technical and cost proposals for contracts and grants, scopes of work, operations plans, sampling and analysis plans, health and safety plans, job descriptions, résumés, statements of qualifications, mission statements, meeting agendas (for professionals and the general public), and other written and oral communications (reports, memoranda, memoranda of understanding, policy briefs, press releases, fact sheets, requests for information). Prereq.: ENST 6900 or equivalent. 3 s.h.

6930 Risk Management. Using the principles of risk assessment, the student will learn to manage existing environmental risks in the workplace. Topics will include workplace health hazards; product liability; toxic tort claims; cleaning strategies for risk reduction such as brownfield redevelopment, voluntary action programs, alternative, and regulatory actions. Economic importance, resource allocation, technical feasibility, and public opinion will be discussed. Prereq.: ENST 6900 and 5830 or equivalent. 3 s.h.

6931 Ecological Risk Assessment. The student will examine environmental risks to nonhuman populations. Topics will include the study of measurements of adverse effects due to one or more stressors by examining population communities and ecosystems. Also, the class will study the following issues: threatened and endangered species, wetlands, endocrine disruption, multiple stressors, sediment and soil toxicity, conservative screening versus site-specific studies, and natural resource damage claims. Prereq.: ENST 6900 and 5830 or equivalent. 3 s.h.

6990 Thesis. Hours arranged. Applicable to master's degree in environmental studies. Research selected and supervised by departmental advisor and approved by graduate faculty of environmental studies program and graduate dean. May be repeated. 1-6 s.h.

6995 Introduction to Environmental Science Research. This course introduces the student to the fundamental and practical aspects of research, especially as they apply to environmental sciences. The course emphasizes research methodologies and ethics, how to review the literature, how to write a research proposal, and how research results are presented. The course will include presentations of the faculty research interests. Prereq.: graduate standing or permission of instructor. 2 s.h.

6999 Special Topics in Environmental Science. Environmental science topics selected by faculty from fields of current research interest or of special emphasis. Prereq.: Permission of director. May be repeated with a different topic up to a total of six semester hours. 1-3 s.h.

HEALTH AND HUMAN SERVICES

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6900 Special Topics. Topics may vary from semester to semester and will be announced along with prerequisites and hours. May be repeated once for a total of six hours. 1-3 s.h.

6918 Program Planning and Evaluation. Principles of planning, developing, implementing, and evaluating programs for nonprofits to improve outcomes. Prereq.: College of Health and Human Services student or permission of instructor. 2 s.h.

6922 Planning and Fiscal Management. Principles and skills to conduct strategic plans, analyze and administer programs, develop budgets, and familiarize students with fiscal matters related to funding sources. Prereq.: CHHS 6918 or permission of instructor. 4 s.h.

6930 Health Informatics. This course presents a detailed review of the structure of provider, payer, and other health care organizations along with the workflow in these types of organizations and their information system

needs; how informatics assists these organizations; how information is used in business and clinical operations; and how information technologies interact with business and clinical stakeholders. Prereq: MHHS student or permission of instructor. 3 s.h.

6949 Community Health Practice. An examination of various physiological, psychological, and sociological factors which influence the health and provision of healthcare in a community. Prereq: HSC 3791 Community Health or equivalent or permission of instructor. 3 s.h.

6950 Professional Codes in Healthcare. An analysis of professional codes and personal ethical beliefs in relationships of trust in contemporary healthcare. Prereq.: PHIL 3725 Biomedical Ethics, PHIL 6900, or 6901. 3 s.h.

6953 Health Behavior. A review of research studies, theories, and models which identify elements that influence behavior and determine factors which deter positive behaviors. Prereq.: CHHS 6949 or permission of instructor. 3 s.h.

6958 Health Services Issues. An examination of current philosophical, legal, and ethical issues in healthcare with the inclusion of the role of health professionals in national health policy, and healthcare reform. Prereq.: CHHS 6949 or permission of instructor. 3 s.h.

6959 Foundation and Planning. Developing effective health promotion programs through a study of the history, philosophy, ethics, and values of health promotion, as well as the principles of effective planning incorporating needs assessment and formulation of objectives. Prereq.: C.H.H.S. student or permission of instructor. 3 s.h.

6960 Implementation and Evaluation. Examination of principles, methods, and materials of conducting and evaluating health promotion programs in various community settings. Work will be documented in evaluation reports. Prereq.: CHHS 6959 or permission of instructor. 3 s.h.

6970 Organizational Behavior in Health Care. Examines the concepts of individual and group behavior in health care organizations, including theories and models associated with workplace stress, conflict management, decision-making, teamwork and leadership. Prereq.: AHLT 4810, or MGT 6900, or MGT 6961. 3 s.h.

6971 Optimizing Performance and Commitment. An examination of the motivational culture and performance in health and human services organizations. Includes the impact of resource management, personnel selection, recruitment, retention, and the motivational system in relation to employee performance and commitment. Prereq.: AHLT 4810 or MGT 6900. 3 s.h.

6972 Information Systems for Health and Human Services Management. An introduction to the design, implementation, and utilization of information systems. Emphasis is on the managerial and decision support aspects of information systems as well as current issues involving technology in the health and human services industries. Prereq.: AHLT 4810 or MGT 6900. 2 s.h.

6980 Seminar. A synthesis of the role of education and management in health or human services. Emphasis on specific problems, concerns, or relative issues related to various work settings. Researched, developed, and presented using manuscript form and PowerPoint. Prereq.: CHHS 6958 and any research class or permission of instructor. 3 s.h.

6981 Grant Writing. Insight into the methods, strategies, and techniques of grant writing, with emphasis on the proposal components and exploration of funding sources. Each student will exhibit competence in planning, developing, and evaluating a proposal. Prereq.: CHHS 6918 and 6922 or 6959 and 6960; 6980 or permission of instructor. 2 s.h.

6990 Practicum. Supervised practicum in selected health and human services facilities offering health and human services administration experience. Prereq.: Approval of advisor. 1-2 s.h.

6999 Thesis. 1-4 s.h.

8949 Community Health Practice. An examination of various physiological, psychological, and sociological

factors, which influence the health and provision of healthcare in a community. Prereq: Admission to Ed.D. program in Educational Leadership and HSC 3791 Community Health or equivalent or permission of instructor. Ed.D. students who have not taken HHS 6949 are required to complete HHS 8949 and complete a supplemental, substantive course assignment involving the determinants of health and their relationship to socioeconomic factors, socioeconomic inequalities, and race vs. class. 3 s.h.

8953 Health Behavior. A review of research studies, theories, and models, which identify elements that influence behavior and determine factors that deter positive behaviors. Prereq: Admission to Ed.D. program in Educational Leadership and HHS 8949. Ed.D. students who have not taken HHS 6953 are required to complete HHS 8953 and complete a supplemental, substantive course assignment involving research on health and human services issues. 3 s.h.

8958 Health Services Issues. An examination of current philosophical, legal, and ethical issues in healthcare with the inclusion of the role of health professionals in national health policy and healthcare reform. Prereq: Admission to Ed.D. program in Educational Leadership and HHS 8949. Ed.D. students who have not taken EDAD 6958 are required to complete EDAD 8958 and complete a supplemental, substantive course assignment involving research on health and human services issues. 3 s.h.

HEALTH PROFESSIONS

Joseph Mistovich, Chair
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5807 Epidemiology for the Health Care Practitioner. (3 s.h.)

5816 Environmental Regulations for Health Care. (3 s.h.)

5828 Grant Writing for Health Professions. (3 s.h.)

5840 Comparative Health Care Systems. (4 s.h.)

5893 Workshop in Health Education. (1-3 s.h.)

6948 Health Systems. A study of the historical, political, philosophical, legal, and organizational elements of the American health care delivery systems. 2 s.h.

6956 Organize and Administrate. Principles of planning, implementing, evaluating, and administering programs in various health settings. Prereq.: HSC 6948. 2 s.h.

HISTORY

Martha Pallante, Chair
520 DeBartolo Hall
(330) 941-1607
mipallante@ysu.edu

5806. American Architectural History I. (3 s.h.)

5807 American Architectural History II. (3 s.h.)

5810 The Conservation of the Historic Built Environment. (3 s.h.)

6900 Introduction to Historical Research. Instruction in the basic tools and techniques of historical research. Required of all candidates for advanced degrees in history. 3 s.h.

6901 Historiography. An introduction to the professional study of history, including an examination of the sources and nature of historical knowledge, historical criticism, and synthesis. Required of all candidates for advanced degrees in history. 3 s.h.

- 6910 Readings in American History.** Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who wish intensive concentration in specific areas of American history. May be repeated with permission of instructor. 3 s.h.
- 6912 Research Seminar in American Colonial History.** Selected problems of early American history. May be repeated with permission of instructor. 3 s.h.
- 6913 Research Seminar in 19th-Century America.** Selected problems of American history, 1800–1865. May be repeated with permission of instructor. 3 s.h.
- 6914 Research Seminar in 20th-Century America.** Selected problems of American history in the 20th century. May be repeated with permission of instructor. 3 s.h.
- 6920 Readings in European Literature.** Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who wish intensive concentration in European history. May be repeated with permission of instructor. 3 s.h.
- 6921 Research Seminar in Medieval Culture and Society.** The main intellectual and social currents of the Middle Ages. May be repeated with permission of instructor. 3 s.h.
- 6922 Research Seminar in Renaissance and Reformation.** Trends and aspects of the Renaissance and Reformation. May be repeated with permission of instructor. 3 s.h.
- 6923 Research Seminar in 17th-Century Europe.** Dutch Commercial Enterprise, the France of Louis XIV, Austria and the Empire, emergence of Brandenburg-Prussia, rise of modern science, the Age of Reason, and the development of the Baroque in arts and literature. 3 s.h.
- 6924 Research Seminar in 18th-Century Europe.** Selected areas of the Enlightenment, Old Regime, and the French Revolution. May be repeated with permission of instructor. 3 s.h.
- 6925 Research Seminar in 19th-Century Europe.** The Napoleonic and Post-Napoleonic Era and the rise of nationalism in Europe. May be repeated with permission of instructor. 3 s.h.
- 6926 Research Seminar in 20th-Century Europe.** Investigation of the causes of the great world wars, the rise of totalitarianism, and the Cold War. May be repeated with permission of instructor. 3 s.h.
- 6927 Research Seminar in Russian History.** Selected problems of Russian history. May be repeated with permission of instructor. 3 s.h.
- 6928 Research Seminar in British Empire.** An examination of major problems confronting the British Empire after 1783. May be repeated with permission of instructor. 3 s.h.
- 6929 Research Seminar in English History.** An examination of selected problems in the political, social, economic, and intellectual history of England. May be repeated with permission of instructor. 3 s.h.
- 6930 Readings in World History.** Readings in the standard works and monographic studies to meet the requirements of qualified students who wish concentration in world history. May be repeated with permission of instructor. 3 s.h.
- 6932 Research Seminar in Middle Eastern History.** This course will deal with topics from the ancient Near East down to the contemporary clash of nationalisms in the Middle East. May be repeated with permission of instructor. 3 s.h.
- 6934 Readings in African History.** Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who wish intensive concentration in African history. May be repeated with permission of instructor. 3 s.h.

- 6935 Research Seminar in African History.** Selected problems in the political, social, economic, and intellectual history of Africa. May be repeated with permission of instructor. 3 s.h.
- 6939 Labor in U.S. History.** Emphasis on work processes, workforce composition, and labor organizations in the industrial Midwest. 3 s.h.
- 6940 Oral History.** Instruction in methods of taking, processing, and utilizing oral depositions relating to history. The course includes assignments in the field. May be repeated once. 3 s.h.
- 6941 American Material Culture.** A discussion and analysis of the use and importance of material artifacts as texts for the recovery of the American past. The emphasis will be on nontraditional sources. Examples include children's books, sacred spaces, and foodways. 3 s.h.
- 6942 Applied History.** This course provides an overview of the field of applied history. Topics include historic preservation, museum studies, heritage tourism, archives and related topics. 3 s.h.
- 6943 Practicum in Applied History.** Examines problems in the field of applied history through student participation in a wide variety of community-based projects. Prereq.: HIST 3715 Introduction to Historic Preservation, HIST 6942, or instructor's permission. 3 s.h.
- 6944 Applied History Internship.** Practical application of principles and methods in the field of applied history with the goal of producing a completed project. Internship to be selected by the student in conjunction with the Program Director. May be repeated once. Prereq.: HIST 6942 and approval of program director. 3 s.h.
- 6945 Interpretation and Preservation of the Industrial Built Environment.** Through lectures and readings, this course examines and interprets the industrial built environment. This includes, but is not limited to, factories, neighborhoods, infrastructure, and commercial districts that make up the fabric of industrial communities. Prereq.: Graduate standing and completion of HIST 6942 or permission of instructor. 3 s.h.
- 6946 Historical Editing.** Project-based approach to theoretical and practical aspects of editing historical and literary documents for both print and digital contexts. Topics include document selection, transcription, verification, and annotation, as well as the implications for teaching and learning using traditional print and electronic archives and texts. Cross-listed with ENGL 6946. 3 s.h.
- 6950 Studies in the Teaching of History.** Investigation and discussion of the research and some of the underlying assumptions in the teaching of history, with implications for the teacher of social studies in the secondary schools and for the prospective history professor. Degree students may receive credit for this course only once. 3 s.h.
- 6951 Special Topics in History.** Special topics in history selected by the staff. May be repeated up to six semester hours. 1-3 s.h.
- 6952 Independent Study.** Individual study in concentrated areas of history under the supervision of a staff member. May be repeated. Prereq.: Permission of the instructor and the graduate director. 1-3 s.h.
- 6953 Research, Thesis.** 1-6 s.h.
- 6955 Museum Curation and Interpretation I.** An introduction to curatorial and interpretative work in a museum setting. Students will learn how to acquire and catalog objects and other materials; plan, research, and write an exhibit; and select objects and images for an exhibit. Prereq.: HIST 6942. 3 s.h.
- 6956 Museum Curation and Interpretation II.** The exhibit planning begun in HIST 6955 will continue in this course, where the exhibit will actually be prepared and installed. Prereq.: HIST 6955 and permission of the instructor. 3 s.h.
- 6957 Special Topics in Applied History.** This course will focus on topics selected by the applied history faculty. Prereq.: HIST 6942. 3 s.h.

6958 **Historic Preservation Law.** The study, theory, and practice of law as it relates to historic preservation.
Prereq.: HIST 3715 or 6942. 3 s.h.

HUMAN ECOLOGY

Janice Elias, Chair
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jaelias@ysu.edu

CHILD AND FAMILY

5860 **Coordination and Evaluation of Early Childhood Programs.** (3 s.h.)

FOOD AND NUTRITION

5825 **Current Nutrition Concepts.** (3 s.h.)
5862 **Food and Culture.** (2 s.h.)
5862L **Food and Culture Laboratory.** (1 s.h.)
5872 **Maternal and Child Nutrition.** (3 s.h.)
5873 **Nutrition and Aging.** (3 s.h.)

6902 **Nutrition Education.** Examination of common nutrition assumptions and claims, techniques in teaching nutrition, development of teaching materials and plans, emphasizing integration into existing courses. Prereq.: Four semester hours in teaching methods or equivalent. 2 s.h.

HUMAN ECOLOGY

5870 **Human Ecology Workshop.** (1-3 s.h.)
5892 **Community Programming in Human Ecology.** (3 s.h.)
5893 **Work and Family.** (3 s.h.)
5895 **International Studies in Human Ecology.** (1-4 s.h.)

6904 **Family Life Education.** Focus on current issues and challenges impacting families; investigation of literature and application of theory; and development of techniques and materials for teaching family relationships and child development at various grade levels. Prereq.: Eight semester hours of child and/or family studies. 3 s.h.

6910 **Special Topics in Human Ecology.** Issues and problems of current interest chosen on the basis of need. Prereq.: CHFM 3731 or equivalent. 1-3 s.h.

6925 **Current Concepts in Nutrition.** Role of diet in disease prevention/health promotion; relationship of specific dietary factors to the occurrence of chronic diseases; and current recommendations for nutrient intake and diet pattern for reducing the risk of chronic diseases and disabilities. Prereq.: FNUT 6760 or permission of instructor. 3 s.h.

6950 **Readings in Human Ecology.** Individual investigation of a special topic; annotated bibliography required. Prereq.: Departmental approval. May be repeated for up to four semester hours. 1-2 s.h.

6999 **Thesis.** 1-6 s.h.

HUMAN PERFORMANCE AND EXERCISE SCIENCE

Richard Walker, Chair
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rlwalker@ysu.edu

5994 Workshop in Physical Education/Athletics. (1–3 s.h.)

6900 Pedagogical Analysis. Description and analysis of pedagogical theories, models, and practices in physical education with emphasis on teaching methodology, the improvement of teaching skills, and planning for maximum student learning. 3 s.h.

6901 Sport in Society. Sport studied as a social system interdependent with culture and society and as a social institution which is related to, or a part of, other basic institutions, such as the family, education, religion, the economy, politics, and the mass media. Prereq.: HPES 4851 Organization and Administration of Human Performance and Exercise Programs or HPES 4855 History and Philosophy of Physical Education. 3 s.h.

6903 Curriculum Development. Progressive development of the physical education curriculum for P–12 based on an analysis of contemporary curriculum theories and models in physical education. Emphasis on program planning and theory to practice. 3 s.h.

6905 Contemporary Issues in Sport Pedagogy. A critical investigation and analysis of contemporary sport pedagogy issues, trends, problems, and concerns. 3 s.h.

6910 Teaching of Motor Skills. Analysis of research on motor learning and its application to the acquisition, the teaching, and the coaching of movement skills. Prereq.: HPES 3795 or equivalent. 3 s.h.

6920 Mechanical Analysis of Motor Movements. Scientific basis for teaching correct form for the exact execution of movement skills through the fundamental laws of physics pertaining to motion. Analysis of various motor activities to determine the proper mechanics for obtaining the most effective and efficient results. Prereq.: HPES 3720 Kinesiology and Applied Anatomy or equivalent. 3 s.h.

6930 Laboratory Instrumentation. A laboratory course designed to provide instruction and practical experience in operating laboratory equipment for the measurement of physiological parameters in the human. Two hours lecture and two hours laboratory per week. Prereq.: HPES 4899 Physiology of Exercise for Physical Education or equivalent. 2 s.h.

6935 Biodynamics and Human Performance. The physiology of human exercise responses to various stress conditions such as environmental, psychosocial, disease, and maximal performance. Prereq.: HPES 4899 Physiology of Exercise for Physical Education or equivalent. 2 s.h.

6940 Administration of Exercise Programs. General guidelines for managing, developing, delivering and evaluating exercise programs with specific behavioral objectives for program directors, exercise leaders, and exercise technicians as established by the American College of Sports Medicine. Prereq.: HPES 3710 Physiology of Exercise or permission of instructor. 3 s.h.

6945 Technological Integration in Physical Education. An analysis of the instructional design process and technology integration applied to physical education. Includes step-by-step process of designing, implementing, and evaluating the effectiveness of technological instructions into both existing and new units of instruction. Prereq.: CSIS 1500 Computer Literacy or equivalent. 2 s.h.

6955 Physical Activity Principles for Children and Adolescents. Scientific basis of physical fitness and its physiological basis. The role of health-related and performance-related physical fitness in physical activity and the lifespan. Analysis of acute responses and chronic adaptations of the body to the physiological demands of physical activity. A primary focus of the practical application to the teaching of physical education and sport coaching. Prereq.: HPES 4899 or equivalent. 3 s.h.

6990 Independent Study. Individual study and projects under faculty supervision. Prereq.: Permission of instructor and department chair. May be repeated to a maximum of three semester hours. 1–3 s.h.

INDUSTRIAL AND SYSTEMS ENGINEERING

Martin Cala, Option Coordinator
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mcala@ysu.edu

- 5801 Operations Research I. (3 s.h.)
- 581IL Manufacturing Practices Laboratory I (1 s.h.)
- 5812L Manufacturing Practices Laboratory 2 (1 s.h.)
- 5820 Advanced Quality for Engineers. (3 s.h.)
- 5823 Automation. (3 s.h.)
- 5825 Advanced Engineering Economy. (3 s.h.)
- 5830 Human Factors Engineering. (3 s.h.)
- 5850 Operations Research II. (3 s.h.)
- 5880 Management of Technology. (3 s.h.)
- 5881 Competitive Manufacturing Management. (3 s.h.)

6901 Optimization Techniques. A study of the theory of optimization and its application to problems from several engineering disciplines. The principles will be applied to constrained and unconstrained engineering problems. Algorithms will be developed for solving optimization problems, which can be formulated as linear, nonlinear, integer, or dynamic programming models. 3 s.h.

6902 Digital Simulation. A study of simulation methods using digital computers, random number generation, Monte Carlo techniques, queuing models, and analysis of simulation output. The student will be provided the opportunity to simulate moderately complex systems on digital computers. Primary emphasis will be on models of technical, scientific, and economic systems. 3 s.h.

6905 Applied Statistics for Design, Quality, and Productivity. Review of probability and statistics, uncertainty and decision making, statistical inference, and analyzing sources of variation. Risk and reliability, risk assessment, robust and quality design, regression analysis, and analysis of variance. Design of experiments, single-factor and multifactor experiments, design of experiments for product characteristics, process characteristics, and process optimization. General statistical process control, special charts and sampling techniques for control, monitoring, and auditing quality. Economic issues in process/quality control. Prereq.: ISEN 3710 Engineering Statistics or equivalent. 3 s.h.

6910 Workshop in Industrial/Manufacturing Engineering. For professionals from business and industry, and students. Specific topics will be announced each time the workshop is offered. Credit hours based on frequency and duration of workshop meetings. 1-6 s.h.

6920 Project Management. Methods for planning, organizing, scheduling, supporting, and controlling projects. Network techniques, including CPM, PERT, and time-cost trade-off analysis. Techniques for the estimation of time, manpower, and other resource requirements of the projects, including economic and statistical analysis, forecasting, learning curves, and line balancing. Management of time and other resources involved. Case studies and utilization of computer resources for the analysis and presentation of projects. Prereq: graduate standing in STEM college. 3 s.h.

6921 Engineering Statistics. Development and application of stochastic models of engineering systems. Elementary probability models applied to decision making under uncertainty. Development and use of theoretical probability distributions for describing stochastic systems. Models for point and confidence interval estimation and models for correlation analysis applied to engineering problems. Prereq: ISEN 3710 or equivalent. 3 s.h.

6930 Microcomputer Models for Deterministic Engineering Systems. Microcomputer model development, implementation, evaluation, and application for deterministic engineering systems. Recognition of engineering systems amenable to analysis as deterministic microcomputer models. Determination of model structure, identification of model parameters, verification of model validity, exercising the model, and interpretation of results. 3 s.h.

6935 Decision Analysis for Engineering. Review of probability and statistics, subjective probability, probability

models, using data, Monte Carlo simulation, and value of information. Introduction to decision analysis, elements of decision problems, structuring decisions, making choices, creativity, and decision making. Risk attitudes, utility axioms, paradoxes, and conflicting objectives. Prereq.: ISEN 3710 Engineering Statistics or equivalent, or permission of instructor. 3 s.h.

6970 Advanced Manufacturing Processes I. Advanced manufacturing processes for metallic materials. Included are continuous casting, powder techniques, fluidized bed reactors, and directional solidification. 3 s.h.

6971 Advanced Manufacturing Processes II. Advanced manufacturing processes for nonmetallic materials. Included are sintering, slip casting, plastic forming techniques, and extrusion of nonplastic materials. 3 s.h.

6990 Special Topics. Special topics in industrial/manufacturing systems engineering covering areas not otherwise available. Topics are selected by the faculty from fields of current research interest or special emphasis and may vary from semester to semester. May be repeated for a maximum of six semester hours. 3 s.h.

6992 Graduate Projects. Analysis, design, research, or other independent investigation on projects selected with the advice and approval of the student's graduate committee. Prereq: Permission of instructor. 3 s.h.

6999 Thesis. Hours arranged. May be repeated. 1-6 s.h.

INFORMATION TECHNOLOGY

5826 Teaching Intensive and Cooperative Business Education. (3 s.h.)

5875 Advanced Multimedia Authoring. (3 s.h.)

MANAGEMENT

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 rrkasuganti@ysu.edu

5825 Microcomputers in Business. (3 s.h.)

5835 Systems Analysis. (3 s.h.)

5845 Work in America. (3 s.h.)

5860 Comparative Management. (3 s.h.)

5865 Database Management Systems. (3 s.h.)

5875 Decision Support/Expert Systems. (3 s.h.)

6900 The Foundation of Management. A study of the fundamental concepts and functions of management. Each functional area is analyzed and the interrelationship of the functions is emphasized. Topics such as organization design, authority-power relationships, control systems, group behavior, participative management, and span of control will be covered. Prereq.: Permit required. 2 s.h.

6910 Business Internship. Provides graduate students the opportunity to relate theory to practice through on-the-job work experience with a participating organization. The internship will serve as an elective M.B.A. course. Prereq.: Completion of level I M.B.A. coursework and six semester hours of level II M.B.A. coursework. 1-3 s.h.

6916 Quantitative Analysis for Business Decisions. Application of computer-based mathematical models to managerial decision making with emphasis on problem formation, sensitivity analysis, and other aspects of model interpretation. Prereq.: ECON 6900 and MGT 6900. 2 s.h.

6917 Information Systems for Management. An introduction to the design, implementation, and utilization of information systems. Emphasis is on the managerial and decision support aspects of information systems as well as current issues. Prereq.: MGT 6900. 2 s.h.

6920 Global Business Environment. The environments and operating issues affecting firms doing business in the global arena. Economic, cultural, political, legal, and competitive environments are covered, along with the global management of functional areas including finance, marketing, operations, and human resources. Cross-listed as FIN 6920 and MKTG6920. Prereq.: Completion of all level I M.B.A. coursework, MGT 6921, MKTG 6942, FIN 6921. 3 s.h.

6921 Operations Management. Product design and selection, process planning, plant location, plant layout, methods study and labor standards, forecasting, aggregate planning and master scheduling, inventory control, scheduling, and quality control. Prereq.: MGT 6916. 3 s.h.

6925 Quality Management. Study of philosophies, strategies, and techniques used in quality management (QM). QM and its relationship to business strategy and other functional areas. Pedagogical emphasis on case studies and projects. Prereq.: MGT 6921 and MKTG 6900. 3 s.h.

6945 Business Process Integration. This course examines the forces driving enterprise integration as well as the management decisions associated with the design and implementation of enterprise systems. Students successfully completing this course will have a thorough understanding of enterprise integration as well as practical experience configuring and using SAP/ERP, the leading enterprise resource planning system. Prereq: MGT 6917. 3 s.h.

6946 Supply Chain Management. This course will cover a number of supply-chain related topics including Inventory Models (consumption-based planning). Advanced Purchasing exercises, Sales & Operations Planning, Material Requirements Planning, Repetitive Manufacturing and Kanban. Topics and concepts are illustrated with SAP/ERP. Prereq: MGT 6921, MGT 6917. 3 s.h.

6954 International Management. Planning, organizing, and control within the context of a multinational corporation, with emphasis upon problems of adaptation to different sociological, cultural, legal, political, and economic environmental characteristics. Prereq.: MGT 6961, plus six semester hours of level II M.B.A. coursework. 3 s.h.

6958 Managing in Emerging Economies. This course focuses on the macro and competitive environments in selected emerging markets, the unique institutional and regulatory factors influencing in these markets, and the strategic and operational approaches required to succeed in these markets. Prereq: Completion of level I MBA coursework and 6 hours of level II MBA coursework. 3 s.h.

6960 Strategic Issues Facing Multinational Enterprises in the 21st Century. This course focuses on strategic issues facing multinational enterprises to enable students to gain insight into a range of conceptual models and empirical methodologies in the field of global strategic management and to apply these concepts and models in the analysis of practical case situations. Prereq: MGT 6920. 3 s.h.

6961 Optimizing Human Performance in Organizations. The study of individual and group motivation theories as applied to organizations with the intention of extracting optimum performance. Topics include strategic human resource management, recruitment, selection, employee testing, performance appraisal, and the design of appropriate reward systems. Prereq.: MGT 6900. 3 s.h.

6962 Organizational Staffing Process. Brief survey of the field of human resource management, followed by intensive analysis of programs for personnel acquisition, maintenance, and development. Emphasis on determination of organizational needs and the development and effective utilization of available human skills and competencies. Examination of applicable federal and other employment legislation. Prereq.: MGT 6961. 3 s.h.

6963 Industrial Relations. Analysis of managerial and organizational aspects of employee relations arising out of relations with union negotiation, application of contracts, living with contracts, and pertinent legislative matters. Prereq.: MGT 6961. 3 s.h.

6965 Strategic Management and Leadership. The correlation of theory and practice in the development of business policy. Emphasis on the problems of executive management, decision making, and administrative action. Prereq: 3.0 M.B.A. GPA; ACCT 6902, BUS 6920 (BUS 6920 may be taken concurrently with MGT 6965), FIN 6921, MKTG 6942, MGT 6921, MGT 6961. Must be taken concurrently with MGT 6967. 3 s.h.

6967 The M.B.A. Integrated Project. Integrating the functional areas of business using a simulation game or similar project. Course is to be taken concurrently with MGT 6965 Strategic Management and Leadership, the M.B.A. capstone course. 1 s.h.

6968 Special Topics in Management. Topics may vary from semester to semester and will be announced along with prerequisites and hours. May be repeated. 1-3 s.h.

6969 Seminar in Management. Analysis of long-range planning, organizational development, systems management, executive decision making, organizational behavior, control systems, and others. Prereq.: MGT 6961 plus six semester hours of level II M.B.A. courses. 2 s.h.

6970 Entrepreneurship. An in-depth analysis of the elements of entrepreneurship, the process of planning and starting a business, the cross-functional skills required to manage a successful start-up, and the special circumstances of small business management. Cross-listed as MKTG 6970. Prereq.: Six semester hours of level II M.B.A. coursework. 3 s.h.

6971 Business and Society. Complex and dynamic interrelationships between business and society: social, cultural, legal, ethical, economic, and technological issues, philosophies, and points of view which influence business. Prereq.: MGT 6961. 3 s.h.

6996 Research Problems. Special research project under the supervision of a graduate faculty member. Credit will be determined in each case in light of the nature and extent of the project. Prereq.: Fifteen hours of level II M.B.A. courses or permission of M.B.A. director. 1-3 s.h.

MARKETING

James Kohut, Chair
3341 Williamson Hall
(330) 941-3149
jk4911@aol.com

6900 Foundations of Marketing. A basic examination of marketing as a business process by which products are matched with markets and through which transfers of ownership are affected. Prereq.: Permit required. 2 s.h.

6910 Business Internship. Provides graduate students the opportunity to relate theory to practice through on-the-job work experience with a participating organization. The internship will serve as an elective M.B.A. course. Prereq.: Completion of level I M.B.A. coursework and six semester hours of level II M.B.A. coursework. 1-3 s.h.

6920 Global Business Environment. The environments and operating issues affecting firms doing business in the global arena. Economic, cultural, political, legal, and competitive environments are covered, along with the global management of functional areas, including finance, marketing, operations, and human resources. Cross-listed as FIN 6920 and MGMT 6920. Prereq.: Completion of all level I M.B.A. coursework, MGT 6921, MKTG 6942, FIN 6921. 3 s.h.

6942 Strategic Marketing Management. A managerial approach to the planning and implementation of marketing with emphasis on the integration of the marketing function with other business activities. Through conceptual material and case analysis, students develop abilities to analyze markets and design effective marketing strategies in the areas of product, promotion, pricing, and distribution. Prereq.: Completion of all level I M.B.A. coursework.

3 s.h.

6945 Integrated Marketing Communications Management. A focused study of the promotional aspects of marketing decisions is presented along with how each part (advertising, sales promotion, public relations, and personal selling) of the promotional mix works synergistically with the other parts to create an integrated message and/or image the marketer. Prereq.: MKTG 6942.

3 s.h.

6946 Consumer Behavior. Analysis of the behavior of consumers, both in groups and as individuals, in order to assist the marketing manager in areas such as selection of target markets, advertising and media strategies, personal selling, product development, marketing research; pricing, and distribution decisions. In addition to business writings, relevant material from psychology, sociology, economics, and anthropology will be utilized to familiarize the student with the behavior of the consumer in the marketplace. Prereq.: MKTG 6942.

3 s.h.

6947 Marketing and Social Responsibility. Current marketing problems created by emerging social, environmental, and consumer pressures and the need to balance consumer satisfaction, profits, and social responsibility. Topics include selling practices, product safety, consumerism, environmental issues, disadvantaged market segments, product quality, consumer advocates, and social critics. Prereq.: MKTG 6900 or equivalent.

3 s.h.

6949 International Marketing Management. The functions, problems, and decision-making processes of marketing executives in business organizations involved in foreign markets are studied. Students are given the opportunity to develop foreign market evaluations applying classroom knowledge to practical decision problems. Involvement of the student on an individual basis is stressed. Prereq.: MKTG 6942.

3 s.h.

6950 Marketing Research and Analysis. The use of exploratory, descriptive, and experimental research methods and techniques to solve marketing problems in the context of role-playing, cases and projects. Emphasis is on understanding the research process; defining management decision problems; formulating research problems and data requirements; selecting proper research methods and techniques; collection, analysis, and interpretation of data; and reporting results. Prereq.: ECON 6900 and MKTG 6942.

3 s.h.

6967 The M.B.A. Integrated Project. Integrating the functional areas of business using a simulation game or similar project. Concurrent: MGMT 6965.

1 s.h.

6968 Special Topics in Marketing. Topics may vary from semester to semester and will be announced along with prerequisites and hours. Course may be repeated.

1-3 s.h.

6970 Small Business Entrepreneurship. An in-depth analysis of the elements of entrepreneurship, the process of planning and starting a business, the cross-functional skills required to manage a successful start-up, and the special circumstances of small business management. Cross-listed as ACCT 6970 and MGMT 6970. Prereq.: FIN 6900, MGMT 6900, and MKTG 6900.

3 s.h.

6996 Research Problems. Special research project under the supervision of a graduate faculty member. Credit will be determined in each case in light of the nature and extent of the project. Prereq.: Fifteen hours of level II M.B.A. coursework or permission of M.B.A. director.

1-3 s.h.

MATERIALS SCIENCE AND ENGINEERING

Martin A. Abraham, Dean
College of Science, Technology, Engineering, and Mathematics
(330) 941-3009

6982 Graduate Research. Individual investigation of advanced topics under the guidance of selected program faculty. May be repeated for a maximum of 30 semester hours.

1 - 6 s.h.

6990 Seminar in Materials Science and Engineering. Presentations of ongoing research in materials science and engineering. Includes presentations by guest speakers, faculty and graduate students. May be repeated for a maximum of 3 semester hours. 1 s.h.

7010 Analytical Methods for Materials Science I. A laboratory course where the student will receive hands-on training with instruments commonly used in materials research. Techniques covered include optical methods, thermogravimetry, differential scanning calorimetry, X-ray diffraction, X-ray fluorescence, magnetic permeability, Hall effect, and atomic force microscopy. 2 s.h. (1 h. lecture / 3 h. lab)

7020 Analytical Methods for Materials Science II. A laboratory course where the student will receive hands-on training with instruments commonly used in materials research. Instruments covered include stress/strain apparatus, scanning electronic microscope, electron microprobe, transmission electron microscope, focused ion beam microscope, X-ray photoelectron spectrometer, Auger spectrometer, impedance analyzer, and potentiostat. 2 s.h. (1 h. lecture / 3 h. lab)

8010 Structure of Materials. A study of the structure/property relationship of materials at the electronic, atomic, and molecular level. Using quantum chemistry, symmetry, chemical bonding and electrochemistry, this course will introduce the student to the classification and properties of amorphous, crystalline, and semi-crystalline structures including metals, semiconductors, ceramics, polymers, and hybrid materials. The properties to be studied include mechanical, thermal, electrical, and magnetic properties. 3 s.h.

8020 Mechanical Properties of Materials. This course addresses the mechanical behavior of materials, assuming knowledge of elasticity, plasticity, fracture and creep, and aims to provide a robust analytical treatment of these topics across size scales and material types. The course is split into three sections: (a) Continuum mechanics, (b) Advanced phenomena in mechanics of materials, and (c) Case studies focused on the design and processing of materials. Prereq.: MATL 8010. 3 s.h.

8030 Thermodynamics and Phase Behavior. Detailed examination of chemical equilibria and chemical changes with an emphasis on the theoretical basis for these phenomena and the properties of phase diagrams. The use of computer models for chemical equilibrium calculations utilizing extensive thermodynamic databases. 3 s.h.

8040 Kinetics, Diffusion, and Rate Processes. Essential topics covered include diffusion in solids and liquids; complex motion of dislocations and interfaces; complex kinetics of phenomena such as phase transformations and morphological evolution; and the rate at which these and other kinetic phenomena occur. Prereq.: MATL 8030. 3 s.h.

8050 Materials Internship. Supervised experience in approved external industrial, government lab, or other comparable environment, working on advanced problems in materials. For materials science and engineering doctoral students or by permission of program coordinator. Prereq.: MATL 8020. May be repeated for a maximum of 6 semester hours. 1-6 s.h.

8060 Dissertation. Design, proposal, completion, and reporting of scholarly research deemed acceptable to the program faculty. Culminates in an oral presentation to dissertation committee. Prereq.: completion of qualifying exam and research proposal. 1-9 s.h.

MATHEMATICS AND STATISTICS

Nathan P. Ritchey, Chair
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MATHEMATICS

- 5821 Topics in Abstract Algebra. (3 s.h.)
 5822 Abstract Algebra II. (3 s.h.)
 5823 Abstract Algebra III. (3 s.h.)
 5825 Advanced Linear Algebra. (3 s.h.)
 5828 Number Theory. (3 s.h.)
 5832 Euclidean Transformations. (3 s.h.)
 5835 Combinatorics and Graph Theory. (3 s.h.)
 5843 Theory of Probability. (3 s.h.)
 5844 Theory of Statistics. (3 s.h.)
 5845 Operations Research. (3 s.h.)
 5851 Topics in Analysis. (3 s.h.)
 5852 Real Analysis II. (3 s.h.)
 5855 Ordinary Differential Equations. (3 s.h.)
 5857 Partial Differential Equations. (3 s.h.)
 5860 Topics in Numerical Analysis. (3 s.h.)
 5861 Numerical Analysis II. (3 s.h.)
 5875 Complex Variables. (3 s.h.)
 5880 Topology. (3 s.h.)
 5884 Mathematical Logic. (3 s.h.)
 5895 Selected Topics in Mathematics. (3 s.h.)

6900 Mathematics Workshop. Intensive study and activity in a topic related to mathematics, its applications, or the teaching of mathematics. May be repeated. Grading is S/U. Prereq.: Permission of graduate coordinator.

1-6 s.h.

6905 Teaching Practicum. Intensive preparation for teaching lower-level mathematics courses, featuring formal instruction and orientation on teaching issues, evaluated presentations, mentored classroom instruction, and weekly teaching seminars. Topics include course design, policies, syllabi, grading; classroom teaching problems; orientation in Mathematics Assistance Center, specific lower-level mathematics courses, online tutorial services. Required of and limited to graduate assistants in the Department of Mathematics and Statistics. To be taken each fall semester student is a graduate assistant. Grading is S/U. Does not count toward credit in the program.

1 s.h.

6910/6911 Advanced Engineering Mathematics I & 2. Theory and solution techniques used in engineering applications. Topics include brief review of ordinary differential equations and linear algebra; vector calculus, integral theorems, complex analysis, series, residue theory, potential theory, special functions, integral transforms, partial differential equations and applications in mathematical modeling. Prereq.: MATH 3705 for 6910 and MATH 6910 for 6911.

3 + 3 s.h.

6915 Mathematical Foundations. Order-theoretic and monadic foundations of mathematics: ordered structures; topologies; powerset operators of a function; applications to continuity, compactness, algebra, logic, and calculus. Prereq.: MATH 3721 Abstract Algebra I and MATH 3751 Real Analysis I, or permission of graduate coordinator.

3 s.h.

6920 Advanced Topics in Algebra. A continuation of MATH 5821 with special emphasis on groups acting on sets, Sylow's Theorem and its applications, ring homomorphisms, ideals, and polynomial rings. Credit will not be given for MATH 5822 and 6920. Prereq.: MATH 3721 or 5821.

3 s.h.

6922 Advanced Topics in Group and Ring Theory. A continuation of MATH 5821 with special emphasis on groups acting on sets, Sylow's Theorem and its applications, ring homomorphisms, ideals, and polynomial rings. Credit will not be given for MATH 5822 and 6922. Prereq.: MATH 3721 or 5821.

3 s.h.

6923 Advanced Topics in Field Theory. This course introduces the major results in advanced field theory. These results include splitting fields, algebraic extensions, finite extensions, cyclotomic polynomials, and finite fields. Credit will not be given for MATH 5823 and 6923. Prereq.: MATH 5822 or 6922.

3 s.h.

6924 Galois Theory. An introduction to Galois Theory with special emphasis on the Galois group, the

- Fundamental Theorem of Galois Theory, and radical extensions. Prereq.: MATH 5823 or 6923. 3 s.h.
- 6925 Advanced Numerical Analysis.** Eigenvalue-eigenvector analysis, boundary value problems, and approximation methods for partial differential equations, and additional topics. Prereq.: MATH 3720 Linear Algebra and Matrix Theory, MATH 3760 Numerical Analysis I, knowledge of high-level programming language, and either MATH 5852 or 5861, or permission of graduate coordinator. 3 s.h.
- 6928 Advanced Number Theory.** Advanced study of number theory: theory and distribution of primes, computational number theory, and additive number theory. Prereq.: MATH 5828. 3 s.h.
- 6930 Differential Geometry.** Classical differential geometry of curves and surfaces, differentiable manifolds with tensors. Prereq.: MATH 5852. 3 s.h.
- 6933 Geometry.** General theory of incidence structures and modern geometric theories. Prereq.: MATH 3721 Abstract Algebra I and either MATH 4830 Foundations of Geometry or MATH 5835. 3 s.h.
- 6937 Graph Theory.** Advanced study of graph theory, graph algorithms, and applications of graph theory. Topics may include Ramsey theory, extremal graph theory, flows and networks, planarity, graph colorings, and combinatorial optimization. Prereq.: MATH 5835. 3 s.h.
- 6938 Combinatorics.** Advanced study of combinatorial models. Topics may include extremal set theory, matroids, inversion formulae, counting techniques, generating functions, difference sets, combinatorial designs, and incidence structures. Prereq.: MATH 3721 Abstract Algebra I and MATH 5835. 3 s.h.
- 6940 Advanced Data Analysis.** Identical to STAT 6940. 3 s.h.
- 6942 Advanced Operations Research.** Topics may include integer programming, advanced linear programming, nonlinear programming, dynamic programming, queuing theory, Markov analysis, game theory, and forecasting models. Prereq.: MATH 5845 and STAT 3743 Probability and Statistics. 3 s.h.
- 6943 Mathematical Statistics I.** Identical to STAT 6943. 3 s.h.
- 6944 Mathematical Statistics II.** Identical to STAT 6944. 3 s.h.
- 6945 Stochastic Processes.** Identical to STAT 6945. 3 s.h.
- 6948 Linear Models.** Identical to STAT 6948. 3 s.h.
- 6955 Advanced Differential Equations.** Proofs of existence and uniqueness of nonautonomous, nonlinear equations. Additional topics may include advanced linear systems, partial differential equations, and integral equations. Prereq.: MATH 5852 and either MATH 3705 Differential Equations or MATH 5855, or permission of graduate coordinator. 3 s.h.
- 6965, 6966 Abstract Analysis I, II.** Lebesgue integration and measure on the real line. General measure theory and functional analysis, including the Radon-Nikodym theorem, the Fubini theorem, the Hahn-Banach theorem, the closed graph and open mapping theorems, and weak topology. Prereq.: MATH 5852 and either 5880 or 6915 for 6965, 6965 for 6966, or permission of graduate coordinator. 3+3 s.h.
- 6975 Complex Analysis I.** Analytic and meromorphic functions of a complex variable, contour integration, the Cauchy-Goursat theorem, Taylor and Laurent series, residues and poles, conformal mapping. Prereq.: MATH 3751 Real Analysis I, or permission of graduate coordinator. Credit will not be given for both MATH 5875 and 6975. 3 s.h.
- 6976 Complex Analysis II.** The Cauchy theorem, the Weierstraß, Mittag-Leffler, Picard, and Riemann theorems, Riemann surfaces, harmonic functions. Prereq.: MATH 5875 or 6975, or permission of graduate coordinator. 3 s.h.

6980 Topology I. Basic concepts of topological spaces and mappings between them, including compactness, connectedness, and continuity. Prereq.: MATH 3721 Abstract Algebra I and MATH 3751 Real Analysis I, or permission of graduate coordinator. Credit will not be given for both MATH 5880 and 6980. 3 s.h.

6981 Topology II. Separation, metrization, compactification. Additional topics will be selected from point-set topology, fuzzy topology, algebraic topology, combinatorial topology, topological algebra. Prereq.: MATH 5880 or 6980, or permission of graduate coordinator. 3 s.h.

6984 Mathematical Logic I. Syntax and semantics of propositional and first-order calculi with applications. Prereq.: MATH 3721 Abstract Algebra I or MATH 3751 Real Analysis I or PHIL 3719 Symbolic Logic, or permission of graduate coordinator. Credit will not be given for both MATH 5884 and 6984. 3 s.h.

6985 Mathematical Logic II. Topics may include elements of recursive function theory, Gödel's incompleteness theorem, decision problems for theories, order-theoretic models, fuzzy semantics. Prereq.: One of MATH 2683 or 6915, and one of 5884 or 6984; or permission of graduate coordinator. 3 s.h.

6989 Doctoral Qualifier Problems. Intense review of undergraduate and graduate level linear algebra, abstract algebra, analysis, complex variable, and topology with emphasis on sample problems from qualifying exams at regional doctorate institutions. Prereq.: Permission of graduate coordinator. 3 s.h.

6990 Independent Study. Study under the supervision of a staff member. Prereq.: Consent of graduate coordinator. May be repeated. 3 s.h.

6995 Special Topics. Specialized topics selected by the staff. Prereq.: Permission of graduate coordinator and department chair. May be repeated up to 12 semester hours. 3 s.h.

6996 Mathematical Project. Individual research project culminating in a written report or paper, though not as broad in scope as a thesis. May be repeated once if the second project is in a different area of mathematics. 1-3 s.h.

6999 Thesis. A student may register for six semester hours in one semester or for three semester hours in each of two semesters. 3-6 s.h.

7005 Advanced Topics in Categorical Topology. Content varies with each offering. Implements ideas from MATH 6915, 6980, 6981, and studies categorical methods in topology and related concrete categories. Emphasis on current literature and open questions. Prereq.: MATH 6915, 6980, 6981, or equivalent, or permission of the graduate coordinator. May be repeated with approval of graduate coordinator. 3 s.h.

7015 Advanced Topics in Foundations of Topology. Content varies with each offering, implements ideas from MATH 6915, 6980, 6981, 6984, and studies foundations of topology from a variety of viewpoints (algebraic, categorical, logical, order theoretic, powerset theoretic, set theoretic, etc.). Emphasis on current literature and open questions. Prereq.: MATH 6915, 6980, 6981, 6984, or equivalent, or permission of graduate coordinator. May be repeated with approval of graduate coordinator. 3 s.h.

7025 Advanced Topics in General Topology. Content varies with each offering, implements ideas from MATH 6915, 6980, 6981, and studies various topics in point-set topology. Emphasis on current literature and open questions. Prereq.: MATH 6951, 6980, 6981, or equivalent, or permission of graduate coordinator. May be repeated with approval of graduate coordinator. 3 s.h.

7035 Advanced Topics in Lattice-Valued Topology. Content varies with each offering. Implements ideas from MATH 6915, 6980, 6981, and studies topology from the standpoint of lattice-valued (fuzzy) subsets. Emphasis on current literature and open questions. Prereq.: MATH 6915, 6980, 6981, or equivalent, or permission of the graduate coordinator. May be repeated with approval of graduate coordinator. 3 s.h.

7045 Advanced Topics in Topological Analysis. Content varies with each offering. Implements ideas from MATH 6915, 6965, 6966, 6980, 6981, and studies the overlap between topology and abstract analysis (topological games, topological groups, separate versus joint continuity, etc.). Emphasis on current literature and open questions. Prereq.: MATH 6915, 6965, 6966, 6980, 6981, or equivalent, or permission of graduate coordinator. May be repeated with approval of graduate coordinator. 3 s.h.

7055 Seminar in Topology and Abstract Analysis. Content varies with each offering. Implements ideas from MATH 6915, 6930, 6965, 6966, 6980, 6981, 6984, and focuses on current research activities of seminar participants. Student registrants are expected to make at least one major presentation each month of the term. Prereq.: Permission of graduate coordinator. May be repeated with approval of graduate coordinator. 3 s.h.

STATISTICS

5800 Mathematical Foundations of Actuarial Science. (3 s.h.)

5802 Theory of Interest. (3 s.h.)

5806 Seminar in Actuarial Science. (2-3 s.h.)

5814 Statistical Data Mining. (3 s.h.)

5817 Applied Statistics. (3 s.h.)

5840 Statistical Computing. (3 s.h.)

5843 Theory of Probability. (3 s.h.)

5844 Theory of Statistics. (3 s.h.)

5846 Categorical Data Analysis. (3 s.h.)

5847 Nonparametric Statistics. (3 s.h.)

5848 Regression Analysis. (3 s.h.)

5849 Multivariate Statistical Analysis. (3 s.h.)

5895 Selected Topics in Statistics. (2-4 s.h.)

6904 Life Contingency Modeling I. An introduction to various statistical, financial, and mathematical models used to determine insurance premiums. These models identify contingency risks and are based upon individual risk model frameworks. Prereq.: MATH/STAT 5843, STAT 6943, or consent of the instructor. 3 s.h.

6905 Life Contingency Modeling II. An introduction to multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, nonforfeiture benefits and dividends, and other means to determine benefit premiums. Prereq.: STAT 6904. 3 s.h.

6910 Loss Models. An introduction to the development of loss and severity models used in actuarial science and the statistical methods used to estimate the parameters of such models. Additional topics, including credibility and simulation, may be covered. Prereq.: MATH/STAT 5844, STAT 6944 or equivalent. 3 s.h.

6940 Advanced Data Analysis. An overview of techniques in data analysis. Includes a strong emphasis on visual interpretation of data. Topics include one or more samples, proportions, odds, regression, and multiple comparisons. Prereq.: MATH/STAT 5844, or permission of graduate coordinator. 3 s.h.

6943 Mathematical Statistics I. Random variables, their distributions and densities. Families and exponential families of distribution. Independence, joint distributions, conditional probability and expectation. Convergence and limit theorems. Prereq.: MATH 3751 Real Analysis I or permission of graduate coordinator. Credit will not be given for both MATH/STAT 5843 and 6943. 3 s.h.

6944 Mathematical Statistics II. A study of theories and properties of statistical hypothesis testing and estimation, including maximum likelihood method, likelihood ratio tests, sufficiency, and related topics. Prereq.: MATH/STAT 5843 or 6943; or permission of graduate coordinator. Credit will not be given for both MATH/STAT 5844 and 6944. 3 s.h.

6945 Stochastic Processes. An advanced study of stochastic processes. Topics include Markov chains; Poisson process; nonhomogeneous Poisson processes; renewal theory; conditional probability and expectation. Prereq.: MATH/STAT 5843 or 6943, or permission of graduate coordinator. 3 s.h.

6946 Sampling Methods. Methods for survey and design and analysis. Topics include basic theory of surveys, descriptions of data, sampling distributions, design of survey, sources of error, questionnaire design, and sampling techniques. Prereq.: STAT 5817 or permission of graduate coordinator. 3 s.h.

6948 Linear Methods. A study of linear statistical methods of the relationship between analysis of variance and regression and the assumptions underlying the analysis of variance. Prereq.: MATH 3720 Linear Algebra and Matrix Theory and either MATH/STAT 5844 or 6944, or permission of graduate coordinator. 3 s.h.

6949 Design and Analysis of Experiments. Fundamental principles of design and analysis of experiments. Topics include blocking; multifactor testing; multiple comparisons; repeated measures; crossing and nesting designs. Prereq.: MATH/STAT 5844 or 6944; or permission of graduate coordinator. 3 s.h.

6988 Modeling in Financial Economics. A study of modeling and evaluation of derivatives and bonds and risk management using derivatives. Topics cover various models in asset evaluation, such as bond price models, the Black-Sholes model, diffusion processes, and risk management. Also listed as ECON 6988. Prereq.: STAT 5843 or STAT 6943 or ECON 6976. 3 s.h.

MECHANICAL ENGINEERING

Hazel Marie
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hmarie@ysu.edu

581I Solar Engineering. (3 s.h.)

5825 Heat Transfer II. (3 s.h.)

5836 Fluid Power and Control. (3 s.h.)

5842 Kinetics of Machines. (3 s.h.)

5852 Stress and Strain Analysis II. (3 s.h.)

5868 Failure Analysis Using the SEM. (3 s.h.)

5872 Engineering Acoustics. (3 s.h.)

5881 Mechanical Vibrations (3 s.h.)

5881L Mechanical Vibrations Laboratory (1 s.h.)

5884 Finite Element Analysis. (3 s.h.)

5885 Computational Fluid Dynamics. (3 s.h.)

5892 Control of Mechanical Systems. (3 s.h.)

6900 Special Topics. Special topics and new developments in mechanical engineering. Subject matter and credit hours to be announced in advance of each offering. Prereq.: As announced or permission of instructor. May be taken three times. 2-4 s.h.

6904 Advanced Thermodynamics. Laws of equilibrium thermodynamics; relations between properties and aspects of the Second Law. Exergy analysis. Macroscopic and microscopic considerations for the prediction of properties. Microscopic description based on classical and quantum statistics. General stability criteria, statistical equilibrium, and trend toward equilibrium fluctuations. Prereq.: Permission of graduate advisor. 3 s.h.

6915 Failure Analysis. Advanced methods in failure analysis of metallics, ceramics, polymers, and composites. Numerous practical examples will be discussed. Individual student projects using scanning electron microscopy are required. Three hours lecture and three hours laboratory. 3 s.h.

6925 Computational Heat Transfer. Numerical modeling techniques and methods in heat transfer. Computational analysis of conduction and convection by the finite element method, finite difference method, and the method of coordinate transformation. Prereq.: MATH 3705 Differential Equations and MECH 3725 Heat Transfer I, or permission of instructor. 3 s.h.

6930 Advanced Fluid Mechanics and Heat Transfer. Viscous and inviscid flows, Navier-Stokes equations, Euler equations, and complex variables methods. Analytic solutions to advanced heat transfer problems, advanced boundary-value problems. Prereq.: MECH 3725 Heat Transfer I or equivalent. 3 s.h.

6945 Advanced Dynamics. Three-dimensional vector statics; kinematics and kinetics of particles and rigid bodies; energy, momentum, and stability. LaGrange's equations of motion for particles and rigid bodies impulse; small oscillations; nonholonomic and dissipative systems. Prereq.: Permission of graduate advisor. 3 s.h.

6952 Applied Elasticity. Equations of equilibrium, compatibility and boundary conditions—their applications to plane stress and plane strain problems. Stress functions, strain energy methods, stress distribution in anile symmetrical bodies; special problems in structures involving torsion and bending of prismatical bars. Prereq.: MECH 3751 Stress and Strain Analysis I or equivalent, or permission of graduate advisor. 3 s.h.

6962 Mechanical Design Analysis. The study of analytical aspects and the application of engineering science topics to machine elements and machinery. Some case studies in mechanical design. Prereq.: Permission of graduate advisor. 3 s.h.

6963 Advanced Stress Analysis. Theory and engineering applications of the most recent techniques of experimental stress analysis, brittle coatings, photoelasticity, strain gauges, photostress. Prereq.: MECH 3751 Stress and Strain Analysis I or equivalent or permission of graduate advisor. 3 s.h.

6983 Modern Power Sources. Analytical and descriptive study of modern power plants. Combustion and environmental problems with fossil-fueled power plants. Electromagnetic circuits and devices with emphasis on the principles of electromechanical energy conversions. Cross-listed as CHEN 6983 and ELEG 6983. Prereq.: Permission of graduate advisor. 3 s.h.

6985 Electromechanical Motion Devices. Thermodynamics of batteries, and electric and fuel cells. Power from nuclear isotopes. Features common to rotating electromagnetic fields. Analysis and design of electromechanical power components. Logical circuit design with I/O structure and interface. Cross-listed as CHEGR 6985 and ELEG 6985. 3 s.h.

6990 Thesis. 2–6 s.h.

6991 Thesis. 2–6 s.h.

6992 Graduate Projects. Analysis, design, research, or other independent investigation on projects selected with the advice and approval of the student's graduate committee. 3 s.h.

MUSIC

Michael Crist, Chair
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5800 A, B Performance Minor. (1+1 s.h.)
5814 Selected Topics in Music Education. (2 s.h.)
5821, 5822 Composition for Minors. (2+2 s.h.)
5828 Music Technology. (3 s.h.)
5830 Materials of Twentieth-Century Music. (3 s.h.)
5831 Modal Counterpoint. (3 s.h.)
5832 Tonal Counterpoint. (3 s.h.)
5833 Theory Seminar. (3 s.h.)
5834 Electronic Music. (3 s.h.)
5840 Instrumentation. (3 s.h.)
5841 Music Workshop. (1–3 s.h.)
5858 Piano Pedagogy. (3 s.h.)
5860 Keyboard Literature. (3 s.h.)
5871 Baroque Music. (3 s.h.)

5872 Eighteenth Century and Viennese Classical School. (3 s.h.)

5873 Opera History. (3 s.h.)

5874 Nineteenth-Century Romantic Period. (3 s.h.)

5878 Selected Topics in Music History. (3 s.h.)

5879 Vocal Literature. (3 s.h.)

5880 Vocal Pedagogy. (1 s.h.)

MUSIC PERFORMANCE

For music performance majors in the following areas:

- Brass Instruments—baritone horn, French horn, trombone, trumpet, and tuba
- Conducting
- Keyboard Instruments—harpsichord, organ, and piano
- Percussion Instruments
- String Instruments—guitar, string bass, viola, violin, and violoncello
- Voice
- Woodwind Instruments—bassoon, clarinet, flute, oboe, and saxophone

1) Assignments of students to teachers are made by the coordinators of keyboard, voice, string, woodwind, brass, and percussion studies. Requests for change of teacher should be addressed to the director of the Dana School of Music.

2) Students registered for four-semester-hour courses receive 50 minutes of individual instruction weekly and practice three hours daily. Students registered for three-semester-hour courses receive 50 minutes of individual instruction weekly and practice two hours daily. Students registered for two-semester-hour courses receive 50 minutes of individual instruction weekly and practice one hour daily. Students registered for three-semester-hour and four-semester-hour courses are also required to attend the weekly seminars held by their individual instructors.

3) Students in the performance major courses 6905–6906 must present a public recital of at least 50 minutes of music. The prerecital hearing must be held during the semester in which the student is enrolled in Music 6906. The supporting document must be completed during the semester in which the student is enrolled in Music 6905. In the event that the paper is not completed during the 6905 semester, a PR grade will be issued for the course. Further information is available from the faculty member in charge of graduate studies in music.

4) Students who fail to meet the standards of the faculty in the area of their performance study may be required to reduce the number of credit hours for which they register in subsequent semesters or they may be required to withdraw completely from the course sequence.

6901, 6902 Performance Minor. For music education majors. Students receive 50 minutes of individual instruction weekly and practice one hour daily. Prereq.: Music 2606 or equivalent. 2+2 s.h.

6903, 6904 Performance Concentration. Music performance through individual instruction. Students receive 50 minutes of individual instruction weekly, practice two hours daily, and are required to attend the weekly seminars held by their individual instructors. Prereq.: Music 3706 or equivalent. 3+3 s.h.

6905, 6906 Performance Major. For music performance majors. Students receive 50 minutes of individual instruction weekly, practice three hours daily, and are required to attend the weekly seminars held by their instructors. Prereq.: Music 4806 or equivalent. 4+4 s.h.

MUSIC THEORY AND COMPOSITION

6903, 6904 Advanced Composition. Individual instruction in the composition of larger forms for chorus, orchestra, or chamber ensembles. Prereq.: Permission of instructor. 3+3 s.h.

6913 Pedagogy of Theory. The study and critical analysis of methods for teaching harmony, sightsinging, and ear training. 3 s.h.

6916 Fugue. Analysis of the fugal style used in 17th-century trio sonatas and in both volumes of *The Well-Tempered Clavier* by J. S. Bach; writing three to four voice fugues employing imitative and invertible counterpoint. 3 s.h.

6921, 6922 Seminar in Materials of Music. The study of techniques used in musical composition with emphasis in analyzing and writing. Course requirements will be determined by student's field of interest. Can be repeated for credit. Admission to course by permission of instructor. 3+3 s.h.

6930 Baroque Music Styles. Stylistic and structural analysis of compositions from the Baroque Era. 3 s.h.

6931 Classic Music Styles. Stylistic and structural analysis of compositions from the Classic Era. 3 s.h.

6932 Romantic Music Styles. Stylistic and structural analysis of compositions from the Romantic Era. 3 s.h.

6933 Twentieth-Century Music Styles. Stylistic and structural analysis of compositions from the 20th century. 3 s.h.

6935 Jazz Theory. This course examines the process of jazz improvisation and undertakes a critical evaluation of the existing modes of analyzing improvisation. Students will learn to differentiate between pedagogical, speculative, and analytical theory and to apply appropriate analytical techniques according to the musical context. Emphasis will be placed on the development of critical listening and reading skills. 3 s.h.

6936 Jazz Composition. Students will study the styles of leading jazz composers and arrangers in the process of developing their craft and their own style. Assignments will include a portfolio of compositions and analysis of compositions by Jelly Roll Morton, Duke Ellington, Thad Jones, and others. 3 s.h.

MUSIC HISTORY

6940 Music in the Middle Ages. The development of polyphonic music, early organum to ca. 1450, with emphasis on techniques, styles, and forms. Seminar, with readings, reports, and musical illustrations. 3 s.h.

6941 Music in the Renaissance. Musical developments from ca. 1450–1600 dealing with the vocal music of this period, both sacred and secular, and the formulation of independent instrumental styles. Seminar with readings, reports, and musical illustrations. 3 s.h.

6942 Introduction to Music Bibliography. Fundamental concepts in bibliographic control with emphasis on the functional and analytic approach to bibliography. 3 s.h.

6943 Seminar in Musicology. An examination of select problems in musicology. May be repeated with permission of instructor. 3 s.h.

6944 Seminar in Symphonic Literature. An investigation of the literature written for symphony orchestra. 3 s.h.

6945 Selected Topics in Music Literature. Various topics related to the study of music literature. Specific topic is announced each time the course is offered. May be repeated with a different topic. 3 s.h.

6946 Selected Topics in Jazz History. Topical studies will develop a historical perspective of a specific period of jazz or a specific jazz artist including related cultures, events, and the development of musical style. Sample topics: early jazz, the Post-Bop Era, the music of John Coltrane. May be repeated with a different topic. 3 s.h.

6990, 6991 Thesis I and II. Individual research and writing culminating in the preparation of a master's thesis. Prereq.: Completion of 15 semester hours coursework and approval of thesis proposal by the Dana Graduate Committee. 2+(1 or 2) s.h.

MUSIC EDUCATION

6950 **Conducting Pedagogy.** The study and critical analysis of methods for teaching conducting. Prereq.: One semester of applied conducting study. 2 s.h.

6970 **Foundations of Music Education.** An examination of basic principles and techniques of music instruction; contemporary trends viewed from historical perspectives. 3 s.h.

6972 **Seminar in Music Education.** Individual projects and discussion of fundamental issues in music education. Course may be repeated once with permission of instructor. 3 s.h.

6973 **Research Methods and Materials in Music Education.** A study of research tools and techniques and their application to problems in music education; critique of research studies. Research report required in nonthesis music education program. 3 s.h.

6975 **Music and the Humanities.** Designed to aid in the development of interdisciplinary courses involving music and the humanities in the secondary school. 3 s.h.

6976 **Directed Study in Conducting.** Study of significant works, vocal or instrumental; special problems in conducting. May be repeated for credit. 3 s.h.

6978 **Contemporary Trends in Music Education.** Examination and discussion of music education in contemporary society. Consideration of repertoire, methods, and teaching aids with regard to current needs and emerging trends. 3 s.h.

6979 **Workshop in Music Education.** For students and teachers in service. Specific topics are announced each time the workshop is offered. Grading is satisfactory or unsatisfactory (S/U). May be repeated with different topic. 1-3 s.h.

6981 **Elementary School Music Practicum.** Field experiences, demonstrations, and lectures to acquaint the student with the many facets of elementary music instruction. Contemporary trends and innovative programs will be examined. Students will be encouraged to introduce certain programs and approaches in their own teaching situations. Prereq.: Teaching experience or student teaching. 3 s.h.

6982 **Secondary School Music Practicum.** An examination of the total secondary school music program through guided field experiences, demonstrations, and lectures. The development of curriculum in general music and instrumental and vocal music will be considered in light of the student's needs and abilities. Prereq.: Teaching experience or student teaching. 3 s.h.

6992 **Independent Projects in Music.** Individual research topics in music of a library, laboratory, or fieldwork nature. Prereq.: Approval of Dana Graduate Committee. 1-4 s.h.

MUSIC ENSEMBLE

Graduate students may apply up to two semester hours of ensemble credit as music electives in the various degree programs, subject to approval by their faculty advisor. 0-1 s.h.

0002 Dana Chorale
 0003 Dana Madrigal
 0004 University Chorus
 0005 Concert Band
 0006 Marching Band
 0007 Symphonic Wind Ensemble
 0008 Symphony Orchestra
 0009 Percussion Ensemble
 0010 String Ensemble
 0011 Men's Chorus
 0012 Opera Workshop
 0013 Contemporary Music Ensemble

0018 Horn Ensemble
 0019 Trombone Ensemble
 0020 Tuba Ensemble
 0021 Brass Chamber Ensemble
 0022 Trumpet Ensemble
 0023 Jazz Ensemble
 0024 Composer's Ensemble
 0026 Chamber Orchestra
 0028 Chamber Winds
 0029 Guitar Ensemble
 0030 Jazz Combo
 0035 Saxophone Quartet

0014 Women's Chorus
0015 Early Music Ensemble
0016 Woodwind Ensemble
0017 Brass Ensemble

0040 University Band
0041 Basketball Pep Band
0051 Piano Chamber Ensemble

NURSING

Patricia Hoyson, Chair
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5870 School Nurse Role Development. (3 s.h.)
5871 Health Problems of School Age Children. (3 s.h.)
5872 School Nurse Practicum. (3–9 s.h.)

6900 Professional Issues in Nursing. Exploration of nursing issues including changing roles and scope of practice and discipline concerns, with emphasis of interdisciplinary collaboration and social, cultural, political, economic, legal, regulatory, and ethical practice considerations. 3 s.h.

6901 Nursing Science and Research I. Analysis of health-related evidence for practice. Exploration of the significance of theory, research, and research methods and strategies for translating evidence into practice. Prereq. or concurrent: NURS 6906. 3 s.h.

6902 Advanced Pathophysiology. Normal physiologic functions and pathologic mechanisms are examined to prepare nurses for advanced practice roles. 3 s.h.

6903 Advanced Pharmacology. Application of pharmacological concepts in clinical settings with examination of major categories of pharmacological agents. Prereq: NURS 6902. 3 s.h.

6904 Advanced Health Assessment. Development of advanced clinical knowledge and skills needed for comprehensive health assessment across the life span. Emphasis on health history, physical, cultural, developmental and nutritional assessments with differential diagnosis of common health problems. Prereq.: NURS 6902 (or concurrent). 3 s.h.

6905 Advanced Health Assessment Practicum. Application of advanced nursing knowledge and skills from NURS 6904 focusing on the assessment of adult and geriatric populations. To be taken concurrently with NURS 6904. Prereq: NURS 6902 and NURS 6998. 5 s.h.

6906 Advanced Statistics. Advanced inferential and multivariate statistical techniques used in nursing and other health professions, with emphasis on PASW computer analysis for interpretation of nursing and health data. Prereq.: An undergraduate statistics course or equivalent. 3 s.h.

6907 Health Assessment of School Children. Development of advanced clinical knowledge and skills in assessment of school children. Emphasis on research from nursing, biological, behavioral, and social sciences. Prereq.: NURS 6901, 6902, and 6903, or enrollment in school nurse licensure program. 3 s.h.

6908 Health Assessment of School Children Practicum. Application of advanced nursing knowledge and skills from NURS 6907, focusing on assessment of children in school settings. Concurrent: NURS 6907. 2 s.h.

6910. Professional Aspects of Nurse Anesthesia. Ethics, legal aspects, and professional issues associated with a career in nurse anesthesia. Includes a history of anesthesia and the role of certified registered nurse anesthetists (CRNA). Prereq.: Acceptance into nurse anesthesia option. 3 s.h.

6911 Pharmacology I for Nurse Anesthetists. Basic principles of pharmacology including drug effectiveness, mechanism of action, and drug interactions. Emphasis on pharmacological action of drugs on specific organ systems and use in treatment of disease conditions. Prereq.: Acceptance into nurse anesthesia option. 3 s.h.

- 6912 Pharmacology II for Nurse Anesthetists.** Comprehensive study of drugs and adjunctive agents used in anesthesia practice. Includes a review of inhalation and intravenous anesthetics, local anesthetics, neuromuscular blocking agents, and adjunctive drugs. Prereq.: NURS 6911. 3 s.h.
- 6913 Medical Chemistry and Physics for Nurse Anesthetists.** Application of organic chemistry, biochemistry, and medical physics in the practice of anesthesia. Prereq.: Acceptance into nurse anesthesia option. 3 s.h.
- 6914 Human Anatomy, Physiology, and Pathophysiology I for Nurse Anesthetists.** Study of the structure and function of the human body. Prereq.: Acceptance into nurse anesthesia option. 3 s.h.
- 6916 Anesthesia Principles I.** Introduction to anesthesia practice and techniques, including preoperative assessments, anesthesia drugs, care plan development and implementation, and safety issues. Prereq.: Acceptance into nurse anesthesia option. 2 s.h.
- 6998 Anatomy and Physiology of Aging.** Using a systems approach, this course will examine the anatomical and physiological changes that occur with aging. It will discuss age-related disorders and evaluate the impact of these changes on activities and daily function. This course will be cross-listed with GERO 6998. 3 s.h.
- 7000 Adult and Gerontology Care.** Advanced nursing management of adult and geriatric health care needs. Taken concurrently with NURS 7001. Prereq: NURS 6904, 6905, and 6998. 3 s.h.
- 7001 Adult-Gerontology Care Practicum.** Application of knowledge and skills from NURS 7000 focusing on advanced nursing management of adult and geriatric health care needs. Concurrent with NURS 7000. Prereq.: NURS 6904, 6905, and 6998. 5 s.h.
- 7002 Nursing Science and Research II.** Continuation of NURS 6901, focusing on design, instrumentation, data collection methods, data analysis and data interpretation. Prereq.: NURS 6901 and 6906. 2 s.h.
- 7003 Role Development.** The examination of concepts, theories, and research related to advanced practice role development, teaching, learning, technology, evaluation strategies, leadership, program development, marketing skills, and health care delivery in community settings. Prereq.: NURS 7000, 7001 and 7002. 3 s.h.
- 7004 Role Development Practicum.** Application of concepts, theories, and research from NURS 7003 in a variety of nursing education, health care, and community settings. Prereq.: NURS 7000, 7001, 7002, 7003, or concurrent with 7003. 4–5 s.h.
- 7005 Capstone Practicum.** Synthesis of learned concepts and theories in the form of an individual scholarly project, and dissemination of findings under the direction of a graduate faculty member. Prereq.: Completion of all coursework and approval of MSN faculty committee. 2 s.h.
- 7006 Special Topics in Nursing.** Special interest nursing topics selected by the faculty which reflect current trends and issues in nursing practice. May be repeated as desired. 1–5 s.h.
- 7008 Schools and Health.** Population focus survey of children's health issues and K-12 schools using CDC Coordinated School Health Program model as an organizing framework. Topics include school health policy, relationship of health and academic outcomes, and Youth Risk Behavioral Surveillance (YRBSS). Current research infused into the course. Cross-listed with MPH 7008. Prereq.: Enrollment in school nurse licensure program. 3 s.h.
- 7010 Human Anatomy, Physiology, and Pathophysiology II for Nurse Anesthetists.** NURS 6914 Continuation of Anatomy, Physiology, and Pathophysiology I with further emphasis on cardiovascular, respiratory, renal, hepatic, and endocrine systems. Prereq.: NURS 6914. 3 s.h.
- 7011 Anesthesia Principles II.** Examines specific anesthetic techniques used in a variety of surgical procedures. Prereq.: NURS 6916. 6 s.h.
- 7012 Anesthesia Principles III.** Administration of anesthesia for high-risk patients. Prereq.: NURS 7011. 8 s.h.

- 7014 Health Management in Schools.** Advanced nursing management of health care needs of children in schools, pre-K through high school. Prereq.: NURS 6907 or enrollment in school nurse licensure program. 3 s.h.
- 7015 Health Management in Schools Practicum.** Application of knowledge and skills from NURS 7014, focusing on advanced nursing management of health care needs of children in schools, pre-K through high school. Prereq.: NURS 6907. To be taken concurrently with NURS 7014. 2 s.h.
- 7016 School Nurse Role.** Examination of concepts, theories, and research related to advanced practice role development, teaching, learning, technology, evaluation strategies, leadership, marketing skills, and health care delivery in school settings. Prereq.: NURS 7014, 7015 or enrollment in the school nurse licensure program. 3 s.h. **7017 School Nurse Role Practicum.** Application of concepts, theories, and research from NURS 7016 in pre-K and K-12 school settings to be taken concurrently with NURS 7016. Prereq.: NURS 7014, 7015 or enrollment in school nurse licensure program. 1-5 s.h.
- 7018 Nursing Curriculum Design.** Foundations of nursing curriculum with designs, development of frameworks, and identification of learning strategies to achieve nursing education learning competencies and outcomes. 3 s.h.
- 7019 Nursing Instructional Methods.** Theoretical foundations and analysis of teaching strategies in academic and clinical settings promoting critical thinking, assessment techniques, and learning outcomes in a variety of nursing education and healthcare settings. Prereq.: NURS 7018. 3 s.h.
- 7020 Evaluation in Nursing Education.** Methods, frameworks, basic principles, and strategies for nursing educational evaluation, including assessment, designs, curriculum and program evaluation tools, agency accreditation processes, legal and ethical guidelines, and measurement tools of scoring and grading. Prereq.: NURS 7018, 7019. 3 s.h.
- 7021 Nurse Educator Role.** Examination of concepts, theories and research related to advanced practice role development, teaching, learning, technology, evaluation strategies, leadership, marketing skills, and nursing education practice in academic and health care delivery settings. Prereq.: NURS 7018, 7019, and 7020. 4 s.h.
- 7022 Nurse Educator Role Practicum.** Field experience and application of concepts, theories, research findings, teaching strategies, learning, technology, evaluation strategies, leadership, and marketing skills from NURS 7018, 7019, and 7020 in a variety of nursing education and healthcare settings. This practicum will consist of 150 hours. Prereq.: NURS 7018, 7019, and 7020 or concurrent with 7021. 5 s.h.
- 7024 Family and Women's Health.** Primary health care management of family and women in diverse settings. Emphasizes health promotion, illness prevention, disease detection, and identification and management of health problems and concerns affecting families and women throughout the lifespan. Taken concurrently with NURS 7025. Prereq.: NURS 6903 (or concurrent), 6902, 6904. 3 s.h.
- 7025 Family and Women's Health Practicum.** Application of concepts, theories and research from NURS 7024 in a variety of health care settings. Taken concurrently with NURS 7024. Prereq.: NURS 6903 (or concurrent), 6902, 6904. 4 s.h.
- 7026 Infant, Child and Adolescent Health.** Primary health care management of infants, children and adolescents in diverse settings. Emphasis on health promotion, illness prevention, disease detection, and identification and management of health problems and concerns from infancy through adolescence. Taken concurrently with NURS 7027. Prereq.: NURS 6902, 6903, 6904. 3 s.h.
- 7027 Infant, Child and Adolescent Health Practicum.** Application of concepts, theories and research from NURS 7026 in a variety of health care settings. Taken concurrently with NURS 7026. Prereq.: NURS 6902, 6903, 6904. 5 s.h.
- 7028 Adult and Older Adult Health.** Primary health care management of young adults, adults, and older adults in diverse settings. Emphasizes health promotion, illness prevention, disease detection, and identification and management of health problems and concerns affecting young adults, adults, and older adults. Taken concurrently with NURS 7029. Prereq.: NURS 6902, 6903, and 6904. 3 s.h.

7029 Adult and Older Adult Health Practicum. Application of concepts, theories and research from NURS 7028 in a variety of health care settings. Taken concurrently with NURS 7028. Prereq.: NURS 6902, 6903, 6904. 5 s.h.

PHILOSOPHY AND RELIGIOUS STUDIES

Bruce Waller, Chair
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bnwaller@ysu.edu

PHILOSOPHY

6900 Ethics in Medicine and the Health Care Professions. Examines issues raised by the institutional structure of medicine and the health care system; major emphasis is given to the diverse roles played by health care professionals and the practical and ethical conflicts that they produce. 4 s.h.

6901 Bioethics and Public Policy. Emphasizes the larger policy issues that impact bioethics; examines their constitutional, social, and moral aspects and their impact on patients, health care providers, and the institutional structure of health care. 4 s.h.

PHYSICAL THERAPY

Nancy Landgraff, Chair
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nlandgraff@ysu.edu

5800 Pathology. (4 s.h.)

8901 Clinical Decision Making I. Decision-making process for clinical management of uncomplicated cases in practice patterns. Emphasis on posture and movement assessment, safety, body mechanics, and monitoring physiological status. Prereq.: Admission to D.P.T. program. 6 s.h.

8902 Functional Anatomy. Study of kinetics, kinematic variables, and mechanical properties of tissue; motion analysis: posture, gait and functional activities; environmental contexts and constraints, and life span applications. Prereq.: Admission to D.P.T. program. 3 s.h.

8903 Language, Culture, and Health. Examination of cultural theory, language, and application to clinical interactions. Cultural assumptions and patterns of health-related activity related to disability, socioeconomic status, age, gender, ethnicity/race, sexual orientation, and religion. Prereq.: Admission to D.P.T. program. 2 s.h.

8904 Clinical Education I. Initial clinical experience in evaluating and treating basic cases of illness/injury prevention, posture and movement dysfunction, and interprofessional practice. Six weeks of full-time experience. Grading is S/U. Prereq.: Admission to D.P.T. program. 4 s.h.

8905 Clinical Decision Making II. Decision making process for clinical management of both routine and less common cases in practice patterns. Emphasis on outcomes research, personnel supervision, individualized and culturally-sensitive intervention, and program design. Prereq.: Admission to D.P.T. program. 6 s.h.

8906 Critical Inquiry I. Introduction to physical therapy literature and resources for physical therapy related scholarly activity. Review of qualitative and quantitative methods, measurement issues, and outcomes research. Understand the basic components of ethical, critical inquiry in order to become informed consumers of professional literature. Prereq.: Admission to D.P.T. program. 1 s.h.

- 8907 Special Topics: Pediatrics.** Theories of human growth and development and application to typical and atypical motor development and illnesses or injuries of children. Clinical management of cases across the practice patterns with emphasis on family/caregiver participation, team approach, and setting-specific expectations. Prereq.: Admission to D.P.T. program. 3 s.h.
- 8908 Legal and Ethical Issues in Physical Therapy.** Foundation knowledge and skills necessary for legal and ethical practice of physical therapy. Emphasis on legal principles and concepts; contract, business, and educational law; ethical theory and ethical decision-making approaches; and professional code of ethics. Prereq.: Admission to the D.P.T. program. 2 s.h.
- 8909 Clinical Decision Making III.** Evaluation of decision-making process for clinical management of complex and complicated cases. Emphasis on reimbursement, professional development, interprofessional activities, and program evaluation. Prereq.: Admission to D.P.T. program. 6 s.h.
- 8910 Critical Inquiry II.** Analysis of literature based on historical and state-of-the-art theories and methods. Evaluation of research on selected physical therapy topics. Emphasis on case report methods of critical inquiry. Introduction to funding, IRB process, collaborative endeavors, and proposal writing. Prereq.: Admission to D.P.T. program. 2 s.h.
- 8911 Special Topics: Geriatrics.** Theories of life span development and human aging with application to systems development and dysfunction. Emphasis on prevention, well elderly, and illnesses/injuries common to the elderly. Clinical management of cases, considering functional goals; cognition; pharmacology; and reimbursement issues. Prereq.: Admission to D.P.T. program. 2 s.h.
- 8913 Management and Leadership in Physical Therapy.** Theories of resource planning, management strategies for utilizing resources (human, information, fiscal, and space/equipment) for health care delivery, and clinical management issues in various physical therapy settings. Prereq.: Admission to D.P.T. program. 2 s.h.
- 8914 Clinical Education II.** Second clinical experience in evaluating and treating a diverse caseload of illness/injury prevention, posture and movement dysfunction, and specialty practice. Includes supervision of support personnel, interprofessional evaluation and treatment, and administrative tasks. Six week full-time experience. Grading is S/U. Prereq.: Admission to the D.P.T. program. 4 s.h.
- 8915 Clinical Decision Making IV.** Topics that integrate practice patterns (musculoskeletal, neuromuscular, cardiopulmonary, and integumentary) such as multiple trauma, burns, amputations, and critical care. Also includes complex cases, within routine diagnoses, due to severity, chronicity, or comorbidity. Emphasis on outcome studies. Prereq.: Admission to D.P.T. program. 6 s.h.
- 8916 Critical Inquiry III.** Peer review of formally-presented case reports. Design of a clinically-related project based on the findings of the case report. Emphasis will be given to formal research proposals, clinical applications, and resources for project implementation. Prereq.: Admission to D.P.T. program. 2 s.h.
- 8918 Professional Issues.** Discussion of professional topics related to entry-level practice, such as leadership, interagency and interprofessional collaboration, future trends and technologies, and opportunities for professional growth. Prereq.: Admission to D.P.T. program. 2 s.h.
- 8919 Clinical Education III.** Continuation of clinical experience in evaluating and treating a diverse caseload of illness/injury prevention, posture and movement dysfunction, and specialty practice. Includes supervision of personnel, interprofessional practice, administrative tasks, and effective time management. Five-week, full-time experience. Grading is S/U. Prereq.: Admission to D.P.T. program. 4 s.h.
- 8920 Clinical Education IV.** Final clinical experience in evaluating and treating a diverse caseload of illness/injury prevention, posture and movement dysfunction, and specialty practice. Collaborative client-oriented practice, professional conduct, and professional development. Fifteen weeks of full-time experience. Grading is S/U. Prereq.: Admission to D.P.T. program. 12 s.h.
- 8921 Independent Study.** Individual study and projects under faculty supervision. Prereq.: Admission to D.P.T.

program, and permission of instructor and department chair. May be repeated for a total of six semester hours.
1-6 s.h.

8922 Research. Research under the supervision of a graduate faculty member. Prereq.: Admission to D.P.T. program, and permission of instructor and department chair. May be repeated for a total of six semester hours.
1-6 s.h.

8923 Community Applications. Community-based project that encompasses the aspects of advocacy, collaboration, social responsibility, consultation and leadership, marketing/PR, and fiscal management. Prereq.: Admission to the D.P.T. Program.
3 s.h.

8924 Histology. The study of the histological basis of human tissue. Emphasis on the relationship between microscopic structure of tissue types and organ function. Prereq.: Admission to D.P.T. program.
1 s.h.

8925 Applied Neuroscience for Physical Therapists. Introduction to the anatomy and physiology of the human central and peripheral nervous systems. Interaction and relationships between the various structures are described in order to understand movement, sensation and higher cortical functions. Structure is related to function through clinical case examples with an emphasis on the importance for physical therapy assessment and intervention. Prereq: Admission to D.P.T. program.
4 s.h.

8926 Imaging and Lifespan Pathology for PT. Imaging principles, methods and findings to illustrate the relationship to treatment options and plans of care. Case-based examples illustrate the implications for physical therapy practice and referral. Common pathology highly relevant to physical therapy throughout the lifespan are discussed. Introduction to common scenarios for differential diagnosis. Prereq.: Admission to D.P.T. program.
2 s.h.

8927 Critical Inquiry I: Planning. Development of research design for case reports and research proposals. Evidence-based emphasis on literature review, definition of research questions, and critical analysis of the research question and selected methodological elements. Introduction to internal and external funding sources. Prereq.: Admission to D.P.T. program.
2 s.h.

8928 Healthcare Delivery. Global study of the delivery of healthcare in a broad-spectrum view. Emphasis is on the societal, economic, legal/ethical and cultural factors that influence healthcare. Multidisciplinary aspects are considered. Prereq.: Admission to D.P.T. program.
1 s.h.

8929 Clinical Decision Making III: Advanced Cases. In-depth analysis of patient/client cases which includes pharmacology influences and diversity aspects. Differential diagnosis skills will be further developed in respect to each case. Evidence-based practice will be emphasized. Prereq.: Admission to D.P.T. program.
3 s.h.

8930 Clinical Decision Making IV: Advanced Cases. In-depth analysis of patient/client cases which includes pharmacology influences and diversity aspects. Differential diagnosis skills will be further developed in respect to each case. Evidence-based practice will be emphasized. Prereq.: Admission to D.P.T. program.
2 s.h.

8931 PT Specialty Applications. Specialty focused course with faculty and clinical experts integrating didactic and client experiences. Students choose area of specialty. Prereq.: Admission to D.P.T. program.
4 s.h.

8932 Pharmacology for PTs. The study of pharmacologic principles, classifications and common pharmaceutical agents. Prereq.: Admission to D.P.T. program.
1 s.h.

8933 Clinical Foundation Skills I. Theories of professionalism in Physical Therapy practice including APTA/OPTA membership and benefits, fiscal responsibility, core values, professionalism, and healthcare compliance will be discussed. Basic patient assessment as it relates to anatomic principles will be taught and practiced and their clinical relevance will be reinforced. Prereq: admission to DPT program.
3 s.h.

8934 Clinical Foundation Skills II. This course is a continuation of PHYTH 8933. Theories of professionalism in Physical Therapy practice including patient and professional advocacy, communication skills, safety, and healthcare compliance will be discussed. Basic patient assessment as it relates to anatomic principles will be taught and practiced and their clinical relevance will be reinforced. Prereq: admission to DPT program.
2 s.h.

8938 Special Topics in Physical Therapy. Special interest physical therapy topics selected by the faculty which reflect current trends and issues in physical therapy practice. May be repeated as desired. Prereq: Admission to the D.P.T. program. 1 – 5 s.h.

PHYSICS AND ASTRONOMY

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PHYSICS

- 5810 Quantum Mechanics I. (3 s.h.)
- 5811 Quantum Mechanics II. (3 s.h.)
- 5823 Laser Physics and Photonics. (3 s.h.)
- 5826 Nuclear Physics and Nuclear Physics Laboratory. (3 s.h.)
- 5830 Condensed Matter Physics. (3 s.h.)
- 5835 Spectroscopy. (3 s.h.)
- 5835L Spectroscopy Laboratory. (1 s.h.)
- 5850 Special Topics in Physics. (2–6 s.h.)
- 5890 Physics and Astronomy for Educators. (3 s.h.)

6900 Physics Education Workshop. Intensive study of selected topics of current interest in physics education. May be repeated. Grading is S/U. 1–3 s.h.

6930 Semiconductor Materials and Devices. Materials properties of semiconductors, the physics and principles of operation of various semiconductor devices including Schottky diodes, PN junction diodes, photodetectors, LEDs, and bipolar junction transistors. Electrical, Optical, and Physical characterization methods used for semiconductor materials and devices. Prereq.: Completion of at least one of the following courses or their equivalent: PHYS 3742, 3750, 5810, or 5830. 3 s.h.

POLITICAL SCIENCE

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- 5800 Select Problems: American Government. (2–4 s.h.)
- 5830 Public Human Resource Management. (4 s.h.)
- 5860 Select Problems: International Relations. (2–4 s.h.)
- 5865 Global Environmental Policy and Law. (3 s.h.)
- 5880 Select Problems: Political Thought. (2–4 s.h.)

6905 Public Administration and the Political Process. Political factors which condition the structure and function of public agencies, including the public interest, agency constituencies, and political influence. Prereq.: Admission to YSU/CSU M.P.A. program. 4 s.h.

6963 Budgetary Policy. Covers the importance of budgeting and finance to public policy makers and public administrators: Sources of city and state finance information; examination of the revenue, expenditure, and debt structure of American cities. Also includes examination of budgetary processes, formats, and accounting systems. Prereq.: Admission to YSU/CSU M.P.A. program. 4 s.h.

PSYCHOLOGY

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5807 Introduction to Counseling. (3 s.h.)

6903 Psychology of Learning and Education. Examination of the teaching and learning process and its implications for use in education. 3 s.h.

6905 Human Growth and Development. A life-span perspective to theoretical and empirical issues of development from conception to death. 3 s.h.

6906 Advanced Child Development. Expanded aspects of child and adolescent psychology. 3 s.h.

6907 Psychology of Adjustment. Basic problems dealing with mental health, individual differences, motivation, and minor deviant behavior. 2 s.h.

6930 Child and Adolescent Health Psychology. Comprehensive theoretical and empirical coverage of topics in pediatric and health psychology. Prereq.: PSYC 6905. 3 s.h.

6936 Cognitive and Social Development. This course will survey major theories and empirical findings of cognitive development and the development of interpersonal relations across childhood. Prereq.: PSYC 6905. 2 s.h.

6940 Personality Theory. The study of major personality theories and their implications for psychotherapy and mental health work. Prereq.: PSYC 3740 Psychological Measurement. 2 s.h.

6955 Psychopathology. The study of abnormal behavior with an emphasis placed on psychopathological conditions. Prereq.: PSYC 6940. 2 s.h.

6957 Advanced Adult Development and Aging. Examines the principles and methods of developmental psychology as they are applied to adulthood. Includes physical functioning, cognitive and behavioral processes, intimacy and family issues, personality and emotional development, career development, and sociocultural factors in the aging process. Prereq.: PSYC 3757 or SOC 3703. 3 s.h.

6959 Behavior Change Interventions and Aging. To explore behavior change resulting from training interventions, both general as well as specific age-related training issues. General topics in training will include transfer, retention, and habilitation issues. Specific training domains will encompass attention training, exercise training, memory training, job training and motivation, behavior problems, and computer training. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6960 Fundamentals of Applied Behavior Analysis. An introduction to the scientific and theoretical foundation of applied behavior analysis including definitions and characteristics, principles and concepts, and behavior change procedures. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of instructor. 3 s.h.

6961 Foundations of Experimental Analysis of Behavior. An examination of the roles that consequences, and their scheduling, play in the acquisition, maintenance, and structure of behavior, mechanisms and theories about mechanisms by which consequences select and shape behavior, and issues surrounding methods, measurement, and quantification. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6962 Behavior Theory and Philosophy. The course is designed to help students understand the philosophical and theoretical underpinnings of behavior analysis and to become familiar with some of the controversial issues surrounding the field from both modern and historical perspectives. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6963 Behavioral Interventions and Ethical Considerations. Introduction to the practice and application of empirically derived behavioral interventions, antecedent manipulations, extinction, differential reinforcement procedures, and punishment procedures for behavior maintained by social positive reinforcement, negative reinforcement, and automatic reinforcement. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6964 Observational Methods & Functional Assessment. This course provides intensive instruction in functional assessment procedures and direct observation methods to be used by the applied behavior analyst in service delivery in community, mental health and education settings. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6965 Behavioral Systems Analysis. The application of basic principles of behavior in business and industry settings. Students are expected to master fundamental principles of behavior analysis and apply those principles to a variety of performance problems in business and industry. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6966 Research Methods in Applied Behavior Analysis. This course covers direct measurement, graphing data, visual inference, single-subject research methodology, program monitoring and evaluation, and ethical issues in applied behavior analytic research. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6968 Practicum I. The first-year practicum will give students experience doing functional analyses and behavior assessments with a specific client population. Possible settings include industry, senior-care, prisons, and rehabilitation centers. This course will follow the experience guidelines of the Behavior Analysis Certification Board ([www. BACB.com](http://www.BACB.com)), which requires 1,000 total hours of practicum experience. Students will work 20 hours per week at their practicum site (BACB requirement for Practicum). Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6969 Practicum II. The second-year practicum will give students experience designing and implementing behavior analytic interventions with a specific client population. This population will be different than that encountered in Practicum I. Possible settings include industry, senior care, prisons, and rehabilitation centers. This course will follow the experience guidelines of the Behavior Analysis Certification Board (www. BACB.com), which requires 1,000 total hours of practicum experience. Students will work 20 hours per week at their practicum site (BACB requirement for Practicum). Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 s.h.

6981 Seminar in Special Education. See SPED 6981. 1-2 s.h.

6990 Seminar in Psychology. Study of topics in psychology. To be announced by topic. Repeatable to six semester hours with change in topic. Prereq.: Permission of instructor. 1-3 s.h.

7000 Psychopharmacology. An introduction to the basic principles of pharmacology; a review of the structures and mechanisms of the central nervous system, with emphasis on neurotransmission; and a survey of the drugs that especially affect the central nervous system, including possible mechanisms of action. 2 s.h.

7010 Counseling Internship. See COUN 7010. 1-10 s.h.

7060 Thesis. Design, proposal, completion, and reporting of scholarly research deemed acceptable by the BATC (Behavior Analysis Training Committee). A student may register for 6 s.h. in one semester or for 3 s.h. in each of two semesters. Prereq.: Admission to the M.S. in Applied Behavior Analysis program or permission of the instructor. 3 - 6 s.h.

PUBLIC HEALTH

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6901 Public Health Concepts. Organizational structure, history, law, ethics, essential services, global problems, and future of public health. Prereq.: Graduate standing, permission of course director required for non-M.P.H. students. 3 s.h.

6902 Social and Behavioral Sciences in Public Health. Theories of health education and promotion; intervention (communication, collaboration, and strategies): sociocultural, diversity, and regional issues as pertains to public health. Prereq.: Graduate standing, permission of course director required for non-M.P.H. students. 3 s.h.

6903 Epidemiology in Public Health. Epidemiological methods, including study design, legal/ethical aspects, and Epi Info, applications of methods including screening, disease surveillance, outbreak investigation, and community needs assessment. Student presentations to focus on special topics such as infectious diseases, chronic conditions, etc. Prereq.: Graduate standing, permission of course director required for non-M.P.H. students. 3 s.h.

6904 Biostatistics in Public Health. Principles of biostatistics in the context of multiple public health applications, Epi Info, SAS, and JMP statistical packages to be used. Prereq.: Graduate standing, permission of course director required for non-M.P.H. students. 3 s.h.

6905 Health Services Administration in Public Health. Management principles, including personnel administration, budgeting, financing, and continuous quality improvement as pertains to public health. Planning and evaluation principles, grant writing, public health economics, public health policy, and data sources. Prereq.: Graduate standing, permission of course director required for non-M.P.H. students. 3 s.h.

6906 Environmental Health Sciences in Public Health. Air quality, water quality, food hygiene, sanitation, solid waste management, hazardous materials management, vector-borne disease, other special topics, occupational health, legal issues, environmental hazard identification and response. Prereq.: Graduate standing, permission of course director required for non-M.P.H. students. 3 s.h.

6907 Grant Writing in Public Health Practice. Methods and techniques for writing and managing grant proposals to support public health programs. Prereq.: Permission of instructor required for non-M.P.H. students. 3 s.h.

6908 Public Health Practice and Issues. In an organizational setting, the following topics will be explored: informatics and communication, diversity and cultural proficiency, ethics, and biology. These topics are emerging public health issues, which will be applied in a practice setting. Prereq.: Graduate standing and MPH 6901, 6902, 6903, and 6904. 3 s.h.

6994 Individual Investigation in Public Health. Intensive research or readings on selected topic or problem to be selected in consultation with M.P.H. graduate faculty. Prereq.: MPH 6901 and 6904. 1-3 s.h.

6995 Special Topics. Specialized sections selected by faculty will focus on specific topics of current interest to public health practice. May be repeated with different topics up to 15 semester hours. Prereq.: Graduate standing, permission of program director required for non-M.P.H. students. 1-5 s.h.

6996 M.P.H. Practicum. 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. Prereq.: Graduate standing, permission of program director required for non-M.P.H. students. 3 s.h.

6997 M.P.H. Capstone Project. A faculty advisor and community preceptor(s) are teamed with each student who will develop a paper (i.e., grant, study, proposal) on a meaningful public health issue learned from the core M.P.H. courses. Prereq.: Graduate standing; MPH 6901, 6902, 6903, 6904, 6905, and 6906. 3–6 s.h.

6998 Capstone Project I. In-depth assessment of public health competencies and preparation for the culminating community experience in MPH Capstone II. Prereq.: graduate standing; MPH 6901, 6902, 6903, 6904, 6905, and 6906. 3 s.h.

6999 Capstone Project II. A required culminating experience for MPH students to be taken after all core courses and MPH 6998 Capstone Project I are completed. In partnership with a community organization/agency. Prereq.: graduate standing, MPH 6901, 6902, 6903, 6904, 6905, 6906, and 6998. 3 s.h.

7008 Schools and Health. Population focus survey of children's health issues and K-12 schools using CDC Coordinated School Program model as an organizing framework. Topics include school health policy, relationship of health and academic outcomes, and Youth Risk Behavioral Surveillance (YRBSS). Current research infused into the course. Cross-listed with NURS 7008. 3 s.h.

RESPIRATORY CARE

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6900 The Respiratory Care Profession. Study of origins, current role, and future directions of respiratory care profession within the framework of the current health care environment. Examination of professional resources is also included. Prereq.: Active membership in American Association for Respiratory Care and acceptance in MRC program. 3 s.h.

6906 Respiratory Care Seminar. Development of a literature review on select current topics culminating in preparation of a scholarly paper consistent with Respiratory Care Journal Conference format and an accompanying PowerPoint presentation. Prereq.: Acceptance in MRC program. 3 s.h.

6908 Leadership Development in Respiratory Care. Using an evidenced-based perspective, the course will examine nature of leadership in health care organizations with an emphasis on self-understanding and learning to achieve both a theoretical and practical understanding of leadership. Health care managers need to be able to create, foster and manage organizations in which people thrive and perform at their best to achieve organizational excellence. Prereq.: Acceptance in MRC program. 3 s.h.

6910 Competency Assessment in Respiratory Care. Reviews how clinically-related competencies in respiratory care are measured including available tools. Evaluation of procedures performed by multiple health care practitioners including issues at state/national levels. Importance of assessing cultural competence also included. Prereq.: Acceptance in MRC program. 3 s.h.

6915 Education and Accreditation in Respiratory Care. Comparison of institutional as well as programmatic accreditation requirements. Prepare students with up-to-date tools/approaches to address major educational accreditation concerns in hospital as well as in post-secondary settings. Students will also compare and contrast the role of accreditation in today's health care environment. Prereq.: Acceptance in MRC program. 3 s.h.

6920 Technology Applications for Health and Human Services. Exploration of technology applications for education, presentations, communications and management in Health and Human Service disciplines. Creation of digital media such as audio and/or video files, spreadsheet macros, e-portfolios and Web-based applications of

various technologies will be required. Application of technology to education, supervision or management will be evaluated through completion of a technology-enhanced project. Prereq.: Acceptance in MRC program. 3 s.h.

6922 Special Topics in Respiratory Care. Special topics for a focused study on problems, issues, or concerns that relate to respiratory care leadership. Prereq.: Acceptance in MRC program. 1 – 3 s.h.

6926 Advanced Mechanical Ventilation. Develops the practitioner's knowledge of advanced ventilatory theory. The technological aspects and clinical application of dual control modes of ventilation, closed loop and ventilator feedback technology will be discussed. The clinical application of unconventional methods of ventilatory support such as ECMO and carbon dioxide removal, transtracheal gas insufflation and HFV will also be presented. Prereq.: Acceptance in MRC program. 3 s.h.

6930 Managing Respiratory Services. Presents a comprehensive approach to the delivery of respiratory services across the continuum of care. Management practices in traditional or acute care settings and nontraditional home care, outpatient rehabilitation facilities, sleep laboratories and long-term care institutions will be compared and contrasted. Compliance with national/state accreditation standards will also be presented. Prereq.: Acceptance in MRC program. 3 s.h.

6943 Advanced Monitoring and Therapeutics. The course is designed to analyze technical features and clinical application of "state of the art" invasive and noninvasive monitoring devices. Specialty therapeutic procedures such as the administration of specialized medical gases and medications will also be explored. The essential elements key to successful integration of new and/or complicated therapeutic modalities and equipment into clinical practice will be highlighted. Prereq.: Acceptance in MRC program. 3 s.h.

6950 Respiratory Care Research. Provides rationale behind evidence-based medicine and presents key elements of scientific research for one study, lab investigation or clinical trial. Course will culminate in creation of abstract to be submitted for publication in Respiratory Care journal. Prereq.: Acceptance in MRC program. 3 s.h.

SOCIAL WORK

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5820 Social Policy. (3 s.h.)

5822 Social Work Methods III. (3 s.h.)

5823 Cultural Diversity in Practice. (3 s.h.)

6900 Human Behavior and the Social Environment I. An overview of normal individual development throughout the life span. Developmental stages, tasks, and circumstances as well as diversity in individual development will be examined. The influence of biological, psychological, and social systems on individual development throughout the life span constitutes the organizing theme for the course. 3 s.h.

6901 Oppression and Cultural Competence. Examination of the history, demographic trends, and cultures of diverse groups who have been disenfranchised based on differences that include race, gender, age, socioeconomic class, sexual orientation, religion, and ability. Emphasis will be placed on understanding the experience of oppression among diverse groups and the implications for social work practice. 3 s.h.

6902. Social Welfare Policy and Program Analysis. An historical perspective on the development of social problems as well as a critical analysis of social welfare institutions, programs, policy efforts, and services. Attention is given to the consequences of social and economic injustice and the effects that policy initiatives have upon vulnerable populations. 3 s.h.

6903 Social Work Foundation Practice I. A foundation methods course based on an advanced generalist social

work practice perspective. This course demonstrates application of the problem-solving process or the planned change process in the context of the strengths perspective. Attention will be placed on planning interventions with diverse individuals, families, and small groups. 3 s.h.

6904 Field Education I. Professionally supervised practice in approved community agencies. Focus will be on increasing the student's analytic skills and repertoire of intervention modalities. The course is based on foundation coursework that emphasizes advanced generalist practice while promoting a strengths-based approach. Concurrent: SCWK 6903. 3 s.h.

6905 Human Behavior and the Social Environment II. An overview of theories and knowledge of the behavior of groups, organizations, and communities as well as the impact of these systems on individual behavior. Special emphasis is given to understanding the influence of mesosystems and macrosystems on social service organizations. Empowerment-based policies are explored. Prereq.: SCWK 6900. 3 s.h.

6906 Business Skills for Social Workers. Overview of the principles, concepts, and terminology related to social work business practice. Topics include time management, financially responsible practice, managed care issues, organizational efficiency and effectiveness, outcome measurements, performance evaluation, marketing for nonprofit organizations, community building and collaborative efforts. State-of-the-art technology will be reviewed. Prereq.: SCWK 6900. 3 s.h.

6907 Social Work Foundation Practice II. A foundation methods course based on an advanced generalist social work practice perspective. This course demonstrates application of the problem-solving process or planned change process in the context of the strengths perspective. Attention will be placed on planning interventions with diverse organizations and communities. Prereq.: SCWK 6903. 3 s.h.

6908 Research. A review of the scientific method, quantitative and qualitative research strategies, and related concepts. Principles of conceptualization, research design, sampling, instrumentation, descriptive and inferential data analysis, scientific report writing, and the significance of research for social work practice will be emphasized. Attention will be placed on developing strengths-based performance indicators. Prereq.: SCWK 6900. 3 s.h.

6909 Field Education II. Professionally supervised practice in approved community agencies. Focus will be on increasing both the student's analytic skills and repertoire of intervention modalities. The course is based on foundation coursework that emphasizes advanced generalist practice while promoting a strengths-based approach. Concurrent: SCWK 6907. 3 s.h.

7000 Advanced Direct Practice I. An advanced course that emphasizes social work values, ethical dilemmas/implications, and the development of practice methods that integrate a strengths-based empowerment approach with individuals, families, and groups. Prereq.: SCWK 6907. 3 s.h.

7002 Adversities and Resiliencies. The development of adversities experienced by individuals from conception through adulthood. The course employs a multisystems ecological perspective in discussing risk conditions, stressful life events, and the interplay of risk and protective factors that appear to be common to many childhood disorders and problems. Prereq.: SCWK 6901. 3 s.h.

7003 Theory and Practice of Supervision. A review of the education, administration, and support aspects of supervision, as well as individual, group, and peer group modalities. Emphasis will be placed on supervisory issues as they relate to diversity, strengths-based assessment, and the development of multicultural competence. Prereq.: SCWK 6905. 3 s.h.

7004 Practice Evaluation. Explores advanced techniques for evaluating systems of all sizes. Methods and strategies for conducting program evaluation and single system research will be emphasized. Special emphasis will be placed on developing strengths-based performance indicators. Prereq.: SCWK 6908. 3 s.h.

7006 Social Work in Aging. This course examines social work with the elderly through critical analysis of policy, specific human behavior content, and research. Students will critique practice interventions, program design, and service strategies specific to social work practice in settings for the aged. 3 s.h.

7007 Social Work in Child and Family Settings. This course examines social work in child and family settings through critical analysis of policy, specific human behavior content, and research. Students will critique practice interventions, program design, and service strategies specific to social work practice in child and family settings. 3 s.h.

7008 Social Work in Mental Health Settings. This course examines social work in mental health settings through critical analysis of policy, specific human behavior content, and research. Students will critique practice interventions, program design, and service strategies specific to social work practice in mental health settings. 3 s.h.

7009 Field Education III. Advanced field education placement. Students participate in planned experiences that integrate theoretical knowledge, social work practice skills, and social work ethics and values in direct or macro practice settings. Theoretical frameworks address micro and macro concerns respectively by emphasizing empowerment, individual strengths, solution focused practice, community building, collaboration, and organizational structures. Concurrent: SCWK 7000. 3 s.h.

7010 Advanced Direct Practice II. A continuation of SCWK 7000 Advanced Direct Practice I. In addition to developing practice methods that integrate a strengths-based empowerment approach with individuals, this course incorporates theoretical frameworks and constructs from empowerment theory, the ecological perspective, solution-focused practice, the feminist perspective, person-centered practice, and other relevant, brief practice approaches. Prereq.: SCWK 7000. 3 s.h.

7012 Field Education IV. Advanced field education placement. Students participate in planned experiences that integrate theoretical knowledge, social work practice skills, and social work ethics and values in direct or macro practice settings. Theoretical frameworks address micro and macro concerns respectively by emphasizing empowerment, individual strengths, solution- focused practice, community building, collaboration and organizational structures. Concurrent: SCWK 7010. 3 s.h.

7013 Capstone. This course provides opportunities for students to synthesize and integrate previous coursework from their social work education. Theoretical and experiential assignments are utilized to assist students with increased self-awareness and to prepare them for the transition from college to advanced professional social work practice that emphasizes the strengths-based approach. Concurrent: SCWK 7012. 3 s.h.

7014 Selected Topics in Social Work. Advanced seminar on selected topics in social work theory, methods, and research. May be repeated with different topics. 3 s.h.

SOCIOLOGY, ANTHROPOLOGY, AND GERONTOLOGY

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SOCIOLOGY

6900 Special Sociological Problems. Advanced seminars focusing on independent study at the graduate level; social organization in a changing world; social disorganization (or deviance) and social controls; social and cultural factors in personality development; minority relationships; sociology of law; social change; and comparative institutions. 3 s.h.

6905 Social Gerontology. Integration and application of gerontological theories; major conceptual issues regarding life span development; and contemporary gerontological concepts and research. 3 s.h.

ANTHROPOLOGY

6910 Special Anthropological Problems. Advanced seminars focusing on independent study at the graduate level. The study of archaeology, its methods and functions; human origins and differentiation; anthropology of religion; and cultural change and its impact. May be repeated with different topic. 3 s.h.

GERONTOLOGY

6906 Perspectives in Gerontology. Focus on the major theoretical perspectives of aging and aging related research with a focus on health. Theories from gerontology, epidemiology, sociology, and psychology will be covered. 3 s.h.

6960 Epidemiology of Aging. Integration and application of epidemiologic theories; major conceptual issues regarding epidemiology and aging; and contemporary interdisciplinary concepts and research. Primary focus will be on the disease distribution and leading causes of death among our aging population. 3 s.h.

6998 Anatomy and Physiology of Aging. Using a systems approach, this course will examine the anatomical and physiological changes that occur with aging. It will discuss age-related disorders and evaluate the impact of these changes on activities and daily function. 3 s.h.

6999 Research Methods. This course serves as an introduction to major methodological issues and basic statistics in the social-scientific study of gerontology. Major topics include developmental perspective and conceptualization of change, basic developmental research design, conceptualization of research problems, research design, measurement, and data analysis. This course should enable students to formulate research questions, design studies, and determine measurement devices and methods of analysis from a developmental perspective. 3 s.h.

7001 Long-Term Care. This course will introduce students to the following topics: who needs long term care; population distribution of long-term care and its current trends; long-term care industry; human medicine and long-term care; social structures and social inequalities in long-term care; culture components of long-term care; family care and social care; government, laws, and social policies of long-term care; and long-term care in a global perspective. Prereq: GERO 6960. 3 s.h.

7090 Field Practicum. Students will complete a 200-hour placement in an aging-related workplace. Variable credit 1-6 s.h. May be repeated for up to 6 s.h. 1-6 s.h.

7099 Thesis. A substantive research project with approval of a committee chair and committee. Variable credit 1-3 s.h. May be repeated for up to 6 s.h. 1-3 s.h.

TEACHER EDUCATION

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EARLY CHILDHOOD EDUCATION

6910 (ECE) Curriculum, Theories, and Methods in Early Childhood Education, Pre-K–Grade 3. Investigation of curriculum, theories, and assessment and how they relate to children's learning. Attention given to the role of parents as teachers. 3 s.h.

6911 (ECE) Early Childhood Pedagogy in Math and Science. By exploring math and science teaching practice for grades K-3, the candidates will review teaching methods of math and science, find and design math and science programs and lessons, incorporate national and state standards in teaching math and science, and strengthen the assessment methods for classroom instruction. This course is linked to ECE 6921 in terms of an action research to solve real problems in teaching math and science for the participating teachers. 4 s.h.

6920 (ECE) Current Social Issues in Early Childhood Education. Analysis of contemporary issues, trends, and current educational policies that impact classroom practices. Includes service-learning component. Prereq.: ECE 6910 or ECE 6911. 3 s.h.

6921 (ECE) Action Research in Early Childhood Education, Pre-K-Grade 3. Designed as a culminating experience. Direct participation is required for the successful completion of a field study, onsite project, or other classroom-based experience deemed suitable by the student's major faculty advisor. Prereq.: ECE 6911 and FOUN 6904. 3 s.h.

EARLY/MIDDLE CHILDHOOD EDUCATION

5811 (EMCE) Early Childhood Generalist: Math and Science. (3 s.h.)

5812 (EMCE) Integrated Language Arts and Social Studies for 4th & 5th Grade. (3 s.h.)

5816 (EMCE) Diagnosis and Remediation of Elementary School Mathematics. (2 s.h.)

5854 (EMCE) Middle School: Theory and Practice. (3 s.h.)

5888 (EMCE) Topical Seminar. (1-3 s.h.)

5900 (EMCE) Early/Middle Childhood Education Workshop. Intensive study of selected topics, issues, or problems of current interest in early and/or middle childhood education. Grading is S/U. May be repeated. 4 s.h.

5901 (EMCE) Early/Middle Childhood Education Workshop. Intensive study of selected topics, issues, or problems of current interest in early and/or middle childhood education. Grading is S/U. May be repeated. 1-4 s.h.

5902 (EMCE) Early/Middle Childhood Education Workshop. Intensive study of selected topics, issues, or problems of current interest in early and/or middle childhood education. Grading is S/U. May be repeated. 1-4 s.h.

5903 (EMCE) Early/Middle Childhood Education Workshop. Intensive study of selected topics, issues, or problems of current interest in early and/or middle childhood education. Grading is S/U. May be repeated. 1-4 s.h.

6918 (EMCE) Elementary School Mathematics Programs. An analysis of past and present programs of elementary school mathematics; evaluation of programs, including a consideration of adequacy of content, recognition of mathematics as a system, and provision of number experiences for the learner. 3 s.h.

6919 (EMCE) Social Studies Programs in the Elementary School. Objectives of elementary school social studies programs in terms of current needs; adaptation of materials of instruction in terms of the social science skills; evaluation of student progress; critical analysis of methods of improving instruction in social studies. 3 s.h.

6920 (EMCE) Elementary School Science Programs. Focus on the objectives for science education in the elementary school; the elementary school science curriculum; process and inquiry in the elementary school science curriculum; process and inquiry in the elementary school science program; teacher education; educational media; and the evaluation of science teaching. 3 s.h.

6921 (EMCE) Issues, Problems, Developments, and Curriculum in Elementary Education. A study of recent trends in elementary school organization and instruction (non-graded units, team teaching, middle schools, etc.) Developing an understanding of the meaning of curriculum at the elementary level, evidence of need for curricular changes, influences of society on curriculums, exploration of current status and trends; and the role of teacher and administrator in curriculum appraisal and development. 3 s.h.

7042 (EMCE) Professional Development for Classroom Teacher Educators. A restricted professional development course for classroom teacher educators invited to supervise the instructional program of student teachers and field experience students. The course concentrates on developing analytical observation, conferencing, evaluation, and supervision skills based on scientific knowledge and theoretical constructs. Prereq.: Invitation from YSU and endorsement from home school district to serve as a classroom teacher educator. Cross-listed with SPED 7042 and SED 7042. 2 s.h.

MIDDLE CHILDHOOD EDUCATION

6938 (TEMC) Early Adolescent Characteristics and Educational Program Needs. Application of research and theories about the physical, cognitive, emotional, moral, and social development of ten- to 15-year- olds to middle grade instructional decisions. Students will reflect upon and analyze policy and program implications based on developmental principles and investigate effective collaboration with family and others involved with the age group. Includes field inquiry. 3 s.h.

6939 (TEMC) Organizational Components of Middle Level Schools. Reflection on theory and research information concerning the historic, philosophical, and organizational components of middle-level schools, including program assessment and evaluation of learning environments for appropriateness to early adolescent learners. Prereq.: TEMC 6938. 3 s.h.

6940 (TEMC) Inquiry into Current Issues in Middle-Level Education. Application of previously acquired knowledge, critical thinking, inquiry techniques, including Internet searches, and collaborative synthesis strategies to significant middle-level education problems. Cohort inquiry team participants will present a multimedia reform proposal. Prereq.: TEMC 6938 and TEMC 6939. May be repeated. 1-3 s.h.

6941 (TEMC) Pedagogy Appropriate for Early Adolescent Learners. A course linking the learning needs of early adolescents with a variety of curricular and instructional approaches and assessments. Students will reflect on pedagogical theories and research on ways to integrate middle-level curriculum and promote learning construction by students, participate in professional collaboration, investigate alternative assessment techniques, and design an action research project to apply their understanding. Prereq.: TEMC 6940. 3 s.h.

6942 (TEMC) Action Research: Pedagogy Appropriate for Early Adolescent Learners. A culminating middle-grade-level classroom teacher research project implementing the design of the study organized in TEMC 6941. Students will review authentic assessment literature, collect and analyze evaluation data collaboratively with students, interpret results, and propose improvements. Prereq.: TEMC 6941. 3 s.h.

6943 (TEMC) Field Experience: Service Learning and School-Community Collaboration. Field experience study of middle-grade-level school-community collaboration and opportunities for service learning to promote healthy development of early adolescents. Participants design, administer, and analyze an interview survey and propose a collaborative model for interaction. 3 s.h.

6950 (TEMC) Pedagogical Content Knowledge in Mathematics for Middle School Teachers I. Integrates mathematics content, mathematics pedagogy, and results from mathematics education research through direct instruction and inquiry-based experiences with manipulative materials and technology. Develops conceptual foundations through topics of number, number sense, and measurement; operations, functions, patterns, and algebra; and mathematical processes. Field experience in a middle grades learning environment is required. Prereq.: Middle Childhood Licensure in area(s) other than mathematics. 3 s.h.

6951 (TEMC) Pedagogical Content Knowledge in Mathematics for Middle School Teachers II. Integrates mathematics content, mathematics pedagogy, and results from mathematics education research through direct instruction and inquiry-based experiences with manipulative materials and technology. Develops conceptual foundations through topics of geometry, measurement, and spatial sense; data analysis and probability; and mathematical processes. Prereq.: Middle Childhood Licensure in area(s) other than mathematics, TEMC 6950. 3 s.h.

6952 (TEMC) Science for Middle School Teachers I. Using NSES/NSTA/NCATE and Ohio Standards as the framework, candidates engage in a purposefully integrated in-depth exploration of science content and pedagogy appropriate for middle grades teachers. Topics include content, inquiry, general skills of teaching, curriculum, assessment, safety and welfare, and professional growth. Experiences that integrate science content with processes and problem-solving skills for achieving life-long learning and science literacy will be emphasized. Portions of the course may be offered on-site, on-line, or as a combination of both. Field experience in a middle grades learning environment is required. Prereq.: Admission to the School of Graduate Studies and Research and Middle Childhood Licensure area(s) other than science. 3 s.h.

6953 (TEMC) Science for Middle School Teachers II. Using NSES/NSTA/NCATE and Ohio Standards as the framework, candidates engage in a purposefully integrated in-depth exploration of science content and pedagogy appropriate for middle grades teachers. Topics include content, nature of science, issues, science in the community, and professional growth. Experiences that integrate science content with processes and problem-solving skills for achieving life-long learning and scientific literacy will be emphasized. Portions of the course may be offered on-site, on-line, or as a combination of both. Field experience in a middle grades learning environment is required. Prereq.: Admission to the School of Graduate Studies and Research and Middle Childhood Licensure in area(s) other than science. 3 s.h.

6954 (TEMC) Middle School: Theory, Research, and Practices. Major concepts, research, and theories about the physical, cognitive, emotional, moral, and social development of students in grades 4-9. Research historical, philosophical, and organizational components of middle grades schools, including program assessment and evaluation of learning environments. Emphasis will be placed on research and position statements from National Middle School Association. Students will design an action research project to apply their understanding. Prereq.: Admission to School of Graduate Studies and Research. 3 s.h.

6955 (TEMC) Field Experience: Middle Years School/Community Collaboration. Field experience study of middle grades level school/community collaboration and opportunities for service learning to promote healthy development of early adolescents. Additional research into current issues and challenges facing middle schools today. Participants design, administer, and analyze an interview and survey instrument and propose a collaborative service learning model. Prereq.: Admission to School of Graduate Studies and Research. 3 s.h.

LITERACY

6917 (TERG) Literacy, Reading, and Language Arts Programs. A critical appraisal of literacy, reading, and language arts programs in schools and an analysis of contemporary methodological issues. 3 s.h.

6922 (TERG) Organizing and Managing Diverse Literacy Environments. Creating a literate environment that fosters student interest in reading and writing by integrating foundational knowledge, use of research-based instructional practices, curriculum materials, and assessment-based decision making to form instructional groups. Emphasis on student interests, reading abilities, and cultural and linguistic backgrounds as foundations for a reading and writing program that incorporates a large supply of books, technology-based information, and non-print materials. 3 s.h.

6923 (TERG) Literacy and Phonics Instruction: Early Years. An investigation and research of the philosophy, principles, and practices of reading (including phonemic and phonetic developments) and language arts of the child, birth through age 8. Examination and application of formal and informal assessment procedures in the context of reading and language arts instruction. Language learning needs of diverse populations will be addressed. 3 s.h.

6924 (TERG) Content Literacy Young Adolescent to Adult. Investigation of research-based philosophies, principles, and best practices for reading to learn and using the language arts in comprehending and meaning-making; using reading and the language arts as tools in learning communication. 3 s.h.

6926 (TERG) Reading and Language Arts Assessment I. An examination and application of formal and informal assessment procedures in the context of reading and language arts instruction. Emphasis will be placed on the use of background information and discrete data. Strategies providing for effective appraisal procedures and developmentally appropriate activities will be included. Prereq.: TERG 6917. 3 s.h.

6927 (TERG) Practicum: Coaching for Effective Literacy Instruction. The role of the literacy coach as an instructional leader in assessment-based decision making, research-based instruction, and delivery of high-quality professional development. Emphasis placed on techniques for working with individual teachers in a coaching context and groups of teachers in whole group PD settings. 3 s.h.

6928 (TERG) Practicum: Case Study in Reading and Language Arts. Application of previous course content involves supervised formal and informal assessment of school-age pupils, developing an individualized reading plan, selecting appropriate strategies and materials for teaching, writing, tutoring log entries, developing a student portfolio, evaluating results of instruction, and writing a case study report. Prereq.: TERG 6926. 3 s.h.

6929 (TERG) The Reading and Language Arts Professional. Investigation of theories and performance-based procedures for creating, analyzing, guiding, and changing school- and system-wide reading and language arts programs. Prereq.: TERG6926. 3 s.h.

6970 (TERG) Coaching in Diverse Classrooms. The focus of this course is on the preparation of literacy specialists to coach teachers in the implementation of culturally responsive instruction for diverse learners. This population includes special needs, culturally and linguistically diverse students. Emphasis will be placed on connections between current theory, research, and instructional practice. 2 s.h.

6971 (TERG) Pedagogy of Effective Literacy Instruction. Candidates demonstrate knowledge of a wide range of instructional practices, methods, and curriculum materials, including technology, that support effective reading and writing instruction. Candidates integrate their knowledge and dispositions regarding curriculum, instructional practices, curricular materials, assessment, and evaluation to create literate environments that foster both reading and writing in all students. Prereq.: TERG 6970. 2 s.h.

6972 (TERG) Coaching for Effective Assessment Practice. Designed for reading specialists, this course teaches knowledge, skills, and dispositions in school-based professional development and coaching on K-12 reading assessment concepts and skills. Prereq.: TERG 6971. 2 s.h.

6973 (TERG) Professional Development in Literacy. An introduction to research and knowledge bases related to teacher professional development from a variety of perspectives. Examines coaching as one venue of supporting teacher professional development. Prereq.: TERG 6972. 2 s.h.

6974 (TERG) Advanced Action Research in Literacy. Intro to literacy research as an integral part of professional development. Builds candidate understanding of a variety of literacy research paradigms, supports engagement in inquiry to significantly advance candidates' understanding of literacy, and provides opportunities for candidates to collaborate with other literacy professionals to advance understanding of evidence-based practice. Prereq.: TERG 6973. 2 s.h.

6975 (TERG) Internship I. Culminating activity supporting and integrating accomplishment of the Literacy Specialist Endorsement Standards I-VII. School-based practicum providing group and individual professional development to colleagues for continuous improvement of literacy curriculum, instruction, and assessment. Diagnostic reading and writing clinical experiences focus on data-based decision making to inform professional development provided in both group and individual settings (coaching). Prereq.: TERG 6971. 4 s.h.

6976 (TERG) Internship II. Continuation of the culminating activity supporting and integrating accomplishment of the Literacy Specialist Endorsement Standards I-VII. School-based practicum providing group and individual professional development to colleagues for continuous improvement of literacy curriculum, instruction, and assessment. Diagnostic reading and writing clinical experiences focus on data-based decision making to inform professional development provided in both group and individual settings (coaching). Prereq.: TERG 6975. 4 s.h.

ADOLESCENT/YOUNG ADULT

6931 (SED) The Secondary School Curriculum. Historical development of the American secondary school curriculum, present nature, and recent developments. Study of reports, experiments, and typical programs. The roles of supervisors, administrators, teachers, pupils, and public in the development of curriculum. Prereq.: Admission to the School of Graduate Studies and Research. 3 s.h.

6958 (SED) Instructional Supervision for Nonschool Personnel. Strategies of teaching and supervision, including the use of media, the evaluation of instruction and pupil performance, and related personnel issues will be covered. The course is designed for personnel in nonschool settings who have teaching or supervisory responsibility in in-service programs. Prereq.: Permission of instructor. 3 s.h.

6960C (SED) Special Methods: Science. Using NSTA/NCATE and Ohio content standards, candidates establish and maintain learning environments that provide diverse students with a holistic, interdisciplinary understanding of science. Background for teaching science, instructional strategies, classroom management, planning instruction, assessment, professional development, integration of content with inquiry emphasized. 3 s.h.

6960E (SED) Special Methods: English. Exploring and demonstrating reflective teaching methods for adolescent learning of English: planning instruction, execution of teaching/learning activities, authentic assessment, interpreting academic standards, writing instructional objectives reports, portfolios, teaching files, classroom management for effective teaching. Study of successes in teaching English. 3 s.h.

6960M (SED) Special Methods: Mathematics. Exploring and demonstrating reflective teaching methods for adolescent learning of mathematics: planning instruction, execution of teaching/learning activities, multiple representations of mathematical concepts, problem-solving strategies, authentic assessment, manipulative materials, mathematical communication, purposeful use of instructional technology, classroom management for effective teaching. 3 s.h.

6960S (SED) Special Methods: Social Studies. Theory and practice in learning how to plan, execute, and evaluate social studies lessons that are empowering, interesting, and reflective. Topics include: creating thematic unit plans, interpreting academic standards, writing instructional objectives, creating authentic learning activities, authentic assessment, classroom management and democratic discipline. 3 s.h.

6965 (SED) Supervised Student Teaching: High School. Full-time 16-week student teaching in grades 7-12 supervised by University faculty and experienced A/YA practitioners licensed in the teaching subject of the candidate. To be taken concurrently with SED 6965A. Grading is S/U. Prereq.: Completion of all requirements for initial Adolescent/Young Adult licensure and permission of advisor. 5 s.h.

6965A (SED) Student Teaching Seminar: High School. Seminar topics are based on pedagogy, knowledge, and application of professional practice and standards, critical theory, and knowledge of the adolescent and young adult learner. Completion of the Teacher Work Sample is required. Grading is S/U. SED 6965A is taken concurrently with Supervised Student Teaching: High School, SED 6965. 1 s.h.

6990 (SED) Independent Study. Individual investigation of advanced topics under guidance of selected staff. Prereq.: FOUN 6904. 1-4 s.h.

6999 (SED) Thesis. Prereq.: Approval of department graduate faculty and chair. 2-6 s.h.

7020 (SED) Field Experience in Supervision. A field experience in supervisory practices. Admission by permission of chair of secondary education. Prereq.: FOUN 6904, SED 6922, 6946, 7036, EDAD 6949, 6954. 2 s.h.

7025 (SED) Seminar in Secondary Education. Study of selected topics chosen by the secondary education staff. Prereq.: Permission of instructor. May be repeated by non-degree students. 1-5 s.h.

7032 See TCED 7032.

7042 (SED) Professional Development for Classroom Teacher Educators. A restricted professional development course for classroom teacher educators invited to supervise the instructional program of student teachers and field experience students. The course concentrates on developing analytical observation, conferencing, evaluation, and supervision skills based on scientific knowledge and theoretical constructs. Prereq.: Invitation from YSU and endorsement from home school district to serve as a classroom teacher educator. Cross-listed with EMCE 7042. 2 s.h.

TEACHER EDUCATION

5991, 5992, 5993 (TCED) Seminar in Teacher Education. Various topics of current value in teacher education as selected by faculty. Grading is S/U. Prereq.: Admission to School of Graduate Studies and Research. 1-5 s.h.

6901 (TCED) National Board for Professional Teaching Standards (NBPTS) Assessment Center. The participants of this course will practice for the National Board for Professional Teaching Standards Assessment Center entries, which emphasize content knowledge. Participants will learn how to assess their own content knowledge. They will continue to write their NBPTS portfolio entries with direction from the professor, an NBCT mentor, and feedback from peers. Helpful aids, techniques, technology, and resources will be accessed. Prereq.: Baccalaureate degree, three years of teaching, currently teaching, NBPTS candidate. 3 s.h.

- 6902 (TCED) National Board for Professional Teaching Standards (NBPTS) Portfolio Development.** The participants of this course will write their National Board for Professional Teaching Standards portfolio with direction from the professor, an NBCT mentor, and feedback from peers. Helpful aids, techniques, and resources will be accessed. Participants will learn how to assess their own teaching and how to best represent themselves through writing, evidence, artifacts, and videotapes. Prereq.: Baccalaureate degree, three years of teaching, currently teaching, NBPTS candidate. 4 s.h.
- 6903 (TCED) National Board for Professional Teaching Standards (NBPTS) Advanced Candidacy.** The participants of this course need an additional year in obtaining National Board for Professional Teaching Standards certification and want to take advantage of guidance in demonstrating they are accomplished teachers. This course allows candidates to choose either a portfolio or an assessment center entry to intensely address, as it helps candidates analyze the development needed to clearly, consistently, and convincingly address the NBPTS entry in writing. Prereq.: Baccalaureate degree, three years of teaching, currently teaching, NBPTS advanced candidate. 1 s.h.
- 6904 (TCED) Teacher Leadership Internship.** A practicum with emphasis on teacher supervision, coaching, mentoring, teacher leadership, and planned professional development. Prereq.: baccalaureate degree, three years of teaching. May be repeated. 1-3 s.h.
- 6909 (TCED) Orientation to On-Line Learning.** This course provides an introduction and orientation to on-line learning, while acquainting students with the platform of BB9, distance education technologies, YSU and BCOE. (The ECE program highly recommends this course before taking any of the distance learning courses in the program). Grading is S/U. 1 s.h.
- 6922 (TCED) Principles of Instruction.** A course for practitioners dealing with principles of pedagogy for both traditional and nontraditional classroom settings. Emphasis is on relationships between instruction and learning outcomes. Historical and cognitive bases for instructional strategies are examined in light of student, teacher, and curriculum variables. Prereq.: Admission to the School of Graduate Studies and Research. 3 s.h.
- 6932 (TCED) Action Research in Urban and Rural Education.** This course focuses on action research as it applies to urban and rural education. Topics include reflecting to identify a problem, reviewing literature, planning and implementing interventions, data collection and analysis strategies, and sharing outcomes with others. Course may be offered onsite, online, or as a combination of both. Field experience in an appropriate educational setting is required. Prereq.: Admission to School of Graduate Studies and Research. 3 s.h.
- 6933 (TCED) Brain Based Teaching and Learning.** This course is a critical appraisal of learning and teaching. Each learner constructs his/her brain as learning occurs. Teachers reconsider their practices in light of the science of learning research provided by education, neuroscience and socio-psychology. Course may be offered onsite, online, or as a combination of both. Prereq.: Admission to School of Graduate Studies and Research. 3 s.h.
- 6934 (TCED) Assessment and Accountability.** In-depth study of mandates, policies, procedures, metrics, and consequences of pupil, teacher, and institutional assessment/evaluation models including formative and summative aspects. 3 s.h.
- 6936 (TCED) Fundamentals of Curriculum Development.** Historical and social bases for curriculum development in schools in the United States. Principles for determining content and its sequence and grade placement. Theoretical issues and patterns of cultural organization. (Note: The catalog number of this course will change to 7036.) 3 s.h.
- 6946 (TCED) Supervision of Instruction.** A course dealing with the supervision of classroom teachers and other personnel for those aspiring to be principals or supervisors. Classroom observation systems, professional development programs, accountability models, and common staff relationship problems are examined. 3 s.h.
- 6951 (TCED) Interpersonal Communications for Educators.** Techniques of communicating effectively with teachers, administrators, nonteaching personnel, pupils, and parents. Organizing the overall communications programs within the school. Related problems. Prereq.: Admission to the School of Graduate Studies and Research. 3 s.h.

6959 (TCED) Law and Ethics for the Classroom Teacher. Examination of the legal, ethical, and civic dimensions and interrelations in teaching and schooling from the standpoint of the roles of the teacher and student. Prereq.: Admission to the School of Graduate Studies and Research. 3 s.h.

6999 (TCED) Proactive Grantseeking. Study of recent trends in grantseeking (values-based grantseeking, proactive grants systems, looping, etc.); developing an understanding of the grants marketplace; developing and refining grant-winning ideas; examining the role of teacher, administrator, and community members in grantseeking; using advisory committees/advocacy groups; writing grant proposals; government and private funding sources; choosing the correct marketplace; and follow-up procedures. 3 s.h.

7032 (TCED) Advanced Supervision and Leadership. Practitioner-based supervision in education, from research and theory in education, business, and the applied behavioral sciences with emphasis on supervision, coaching, mentoring, teacher leadership, and planning professional development. 3 s.h.

8101 (TCED) Adult Learning: Theories and Techniques for College Teaching. This course focuses on theory and practice related to working with adult learners in higher education and in professional development contexts. Issues related to the design, development, evaluation, and assessment of college instruction, student affairs, services, and professional development programs will be the primary content of the course. 3 s.h.

THEATER AND DANCE

Scott R. Irelan, Chair
1250 Bliss Hall
(330) 941-3810
sirelan@ysu.edu

THEATER

5864 Advanced Directing. (3 s.h.)

UNIVERSITY POLICIES

GRADUATE STUDENT GRIEVANCE PROCEDURE

The Graduate Student Grievance Procedure provides the graduate students at YSU with a formal channel through which complaints concerning academic matters may be heard. It creates a system whereby the student may receive assistance in pressing a claim within the organization of the University.

Informal discussions between persons directly involved in a grievance are essential in the early stages of a dispute and should be encouraged at all stages. An equitable solution to the problem should be sought before the respective persons directly involved in the case have assumed official or public positions that might tend to polarize the dispute and make resolution more difficult. If a problem still exists after discussion, the student should bring the complaint to the attention of the Graduate Program Director and Department Chair. If the problem remains unresolved, the student should bring the complaint to the School of Graduate Studies and Research.

PRE-GRIEVANCE PROCESS

Grievances initiated by students in graduate programs shall be reviewed and resolved, to the extent possible, through a pre-grievance process conducted at the college level. The pre-grievance process shall be completed within 45 days following the date the issue was first brought to the attention of the specified faculty or department chairperson. Issues brought to the attention of the college dean prior to bringing them to the attention of the specified faculty or department chairperson will be referred to the department chairperson in order to initiate the pre-grievance process.

The pre-grievance process requires completion of the following steps: (1) the student will bring the concern/issue to the attention of either the appropriate faculty or department chairperson, who will document the nature of the concern and the date on which the concern is identified; (2) the student will arrange a meeting with the department chair with the specified faculty member in attendance to resolve the issue; (3) if the issue is not resolved at this step or is delayed by departmental inactivity, the student will arrange a meeting with the college dean to resolve the issue. If the issue is not resolved at this step, the student may initiate a formal grievance through the School of Graduate Studies and Research.

Failure of the student to complete required steps identified in the pre-grievance process will result in a denial by the School of Graduate Studies and Research to review or process a formal grievance. The School of Graduate Studies and Research will only review grievances filed by students in graduate programs that are reviewed and unresolved at the college level. College administrators and faculty shall initiate procedures for resolving formal grievances as identified in existing university and college policies.

Complaints related to violations of equal opportunity policies will be reviewed by the Office of Equal Opportunity & Diversity. They will not be reviewed by the School of Graduate Studies and Research.

SCOPE

The procedure provides the student with an opportunity to appear to seek redress for concerns involving an academic or administrative practice. This procedure may not be used as a means of modifying or changing departmental, University and/or School of Graduate Studies and Research policies, but may be used to address policy issues.

The Graduate Student Grievance Committee will be responsible for coordinating and implementing this formal procedure. The Committee membership will be appointed by Graduate Council and will be composed of three full-service faculty chosen by Graduate Council, three graduate students, and the designee of the vice president for Student Affairs. Any matters pertaining to conflict of interest concerning a particular grievance shall be resolved by the Committee. Two students and two faculty shall constitute a quorum. Any action taken by the Committee shall require a majority vote of a quorum.

PROCEDURE

Before initiating the formal procedure, any student who has a complaint is urged to resolve the conflict through informal discussion as described above. If such discussion fails to resolve the matter, the following procedure should be implemented:

Step 1

- A) The student must submit the Graduate Student Grievance Form to the chair of the Graduate Grievance Committee within twenty-four school days (a school day is defined as any day, including Saturdays, on which classes are conducted) following an event or the student's awareness of a situation that the student wishes to grieve. Within six school days after the student files the form with the Grievance Committee Chair, the committee shall designate three of its members, two faculty and one student, to serve as a subcommittee to attempt to resolve the issue. The subcommittee shall meet with each involved party either on an individual basis, or in a joint conference, as deemed appropriate.
- B) Within six school days after the subcommittee completes its conferences, it shall issue a disposition notice concerning the grievance, together with a form upon which the student may indicate a) acceptance or rejection of the disposition, and b) a determination to pursue or not to pursue the issue further. The student must sign the Grievance Form and forward it to the chair of the Graduate Student Grievance Committee within six school days after receiving the disposition.

Step 2

- A) If the student or person against whom the grievance was filed rejects the disposition, the student must submit a formal written grievance to the chair of the Graduate Student Grievance Committee within six school days. The Grievance Committee may waive the deadline for submitting the formal written grievance. In this and all subsequent steps of the grievance process, the student is entitled without cost for the services to an advocate from the Office of the Vice President for Student Affairs, or may employ at his/her own expense any other advocate. The individual against whom the grievance is directed may also be represented by an advocate.
- B) Within 18 school days of the receipt of the formal written grievance, the Graduate Student Grievance Committee will hold a hearing on the grievance. All parties shall be notified well in advance of the day, time, and place of the hearing. At least three school days prior to the hearing, the Committee will receive written materials from the affected parties so that the Committee members have an opportunity to review them. This does not preclude the admission of additional written materials at the hearing. At the hearing itself, the following rights are guaranteed all parties: each will appear, each may be assisted by an advocate, each may speak, each may present pertinent relevant evidence, each may confront those expressing opposing viewpoints, and each may rebut evidence. After the hearing has been concluded, the Grievance Committee will meet in private and within six school days reach a decision.

IMPLEMENTATION

The Committee's disposition shall be signed by its chair and forwarded to the student and faculty/staff members who were parties of the grievance, the dean of Graduate Studies and Research, the chair or director/head of the department where the faculty or staff member is located, and the Provost. Copies of the disposition, along with a summary of the substantive issues of the grievance, shall be placed in the student's file, as well as in the faculty or staff member's or administrator's personnel file. A master file of all pertinent documents of all grievances shall be kept in the School of Graduate Studies and Research. The Grievance Committee decision is final and allows for a change of grade.

GRADUATE FACULTY

ADMINISTRATIVE MEMBERS

Cynthia E. Anderson, Ed.D., President
Ikram Khawaja, Ph.D., Provost and Vice President for Academic Affairs
Peter J. Kasvinsky, Ph.D., Dean, Associate Provost for Research and Dean, School of Graduate Studies and Research
Martin Abraham, Ph.D., Dean, College of Science, Technology, Engineering, and Mathematics
Bryan DePoy, D.M., Dean, College of Fine and Performing Arts
Shearle Furnish, Ph.D., Dean, College of Liberal Arts and Social Sciences
Charles L. Howell, Ph.D., Dean, Beeghly College of Education
Betty Jo Licata, Ph.D., Dean, Williamson College of Business Administration
Joseph L. Mosca, Ph.D., Dean, Bitonte College of Health and Human Services

FACULTY MEMBERS

ACCOUNTING AND FINANCE

Huaiyu (Peter) Chen, Associate Professor: B.A., Wuhan University, P.R. China, 1997; M.B.A., Clarkson University, New York, 1999; Ph.D., Syracuse University, 2003.

Karin A. Petruska, Assistant Professor: B.S., M.B.A., Youngstown State University, 1989, 1993; P.h.D., Kent State University, 2008.

David E. Stout, Professor: B.S., LaSalle College, 1973; M.B.A., Ph.D., University of Pittsburgh, 1978, 1982.

Xiaolou Yang, Assistant Professor: B.A., Jilin University, China, 1996; M.S., Ph.D., The University of Texas at Austin, 2002, 2006.

ART

Samuel Adu-Poku, Associate Professor: B.A., University of Science and Technology, Ghana, 1987; M.Ed., University of New Brunswick, 1995; Ph.D., The University of British Columbia, 2002.

Dragana Crnjak, Assistant Professor: B.F.A., University of Akron, 2002; M.F.A., Virginia Commonwealth University, 2004.

Joseph D'Uva, Assistant Professor: B.F.A., School of the Art Institute of Chicago, 1996; M.A., M.F.A., The University of Iowa, 1999, 2000.

David Gill,* Assistant Professor: B.F.A., M.A., University of Illinois, 1989, 1996; Ed.D., Northern Illinois University, 2008.

Greg Moring, Professor: B.F.A., The State University of New York at New Paltz, 1973; M.F.A., Maryland Institute College of Art, 1975.

Stephanie L. Smith, Professor: B.A., Washington and Lee University, 1989; M.A., Ph.D., Rutgers University, 1988, 2000.

BIOLOGICAL SCIENCES

David K. Asch, Associate Professor: B.S., University of Nebraska–Lincoln, 1981; M.S., Creighton University, 1983; Ph.D., The University of Kansas Medical Center, 1991.

Michael T. Butcher, Assistant Professor: B.S., Christopher Newport University, 1996; M.S., Wake Forest University; Ph.D., University of Calgary, 2006.

Jonathan J. Caguiat, Associate Professor: B.S., University of Michigan, 1988; Ph.D., Michigan State University, 1995.

Chester R. Cooper, Jr., Professor: B.S., University of Pittsburgh, 1979; M.A., Ph.D., University of Texas, 1983, 1989.

Thomas Diggins, Associate Professor: B.A., Kent State University, 1986; M.S., Ph.D., Suny at Buffalo, 1991, 1997.

Diana L. Fagan, Professor: B.S., University of Texas Medical Branch, 1976; Ph.D., The University of Texas Southwestern Medical Center at Dallas, 1985.

Jill M. Tall Gifford, Associate Professor: B.S., Arizona State University, 1996; Ph.D., Kent State University, 2001.

Carl Johnston, Associate Professor: B.S., University of Manitoba, 1981; M.S., University of Alaska, 1986; Ph.D., University of Cincinnati, 1992.

Johanna K. Krontiris-Litowitz, Professor; B.S., M.S., Case Western Reserve University, 1974, 1977; Ph.D., Cleveland State University, 1984.

Robert E. Leipheimer, Professor: B.A., Thiel College, 1972; M.S., Slippery Rock University of Pennsylvania, 1979; Ph.D., The Ohio State University, 1981.

Heather E. Lorimer, Associate Professor: A.B., University of Chicago, 1982; M.A., M. Phil., Ph.D., Columbia University, 1988, 1989, 1992.

Min, Xiangjia (Jack)*, Assistant Professor: B.S., Laiyang Agricultural College, China, 1984; M.S., Beijing Agricultural University, 1987; Ph.D., University of Hawaii, 1995.; M.S., University of British Columbia, 2002.

Ian J. Renne,* Assistant Professor: B.S., Syracuse University, 1992; M.S., Clemson University, 1996; Ph.D., Clemson University, 2001.

Gary R. Walker, Professor: B.A., University of Colorado, 1977; Ph.D., Wayne State University, 1984.

Mark D. Womble, Associate Professor: B.S., Texas Christian University, 1975; M.S., University of Kentucky, 1978; Ph.D., University of Michigan, 1983.

CHEMISTRY

G. K. Balendiran, Professor: BSc. (Hons), University of Sri Lanka, 1986; Ph.D., University of Wisconsin-Madison, 1991.

Larry S. Curtin, Associate Professor: B.S., Northern Illinois University, 1985, M.S.; Ph.D., University of Wisconsin-Madison, 1986, 1990.

Allen D. Hunter, Professor: B.S., Ph.D., University of British Columbia, 1981, 1985.

John A. Jackson, Associate Professor: B.A., University of Minnesota, 1982; Ph.D., The University of Iowa, 1990.

Brian Leskiw, Associate Professor: B.S., Niagara University, 1998; Ph.D., The Pennsylvania State University, 2003.

Clovis A. Linkous, Professor: B.S., Purdue University, 1976; Ph.D., Michigan State University, 1983.

Sherri R. Lovelace-Cameron, Professor: B.S., Drexel University, 1986; Ph.D., University of Pittsburgh, 1992.

Howard D. Mettee, Professor: B.A., Middlebury College, 1961; Ph.D., University of Calgary (Canada), 1964.

Daryl W. Mincey, Professor: B.S., M.S., Ph.D., University of Cincinnati, 1972, 1974, 1979.

Peter Norris, Professor, B.S., University of Salford, 1986; Ph.D., The Ohio State University, 1992.

Michael A. Serra, Associate Professor: B.S., B.A., Adrian College, 1984, 1984; Ph.D., Iowa State University, 1990.

Josef B. Simeonsson, Associate Professor: B.S., University of North Carolina, 1986; Ph.D., University of Florida, 1990.

Nina V. Stourman, Assistant Professor: B.S., M.S., Ph.D., Moscow State University, 1984, 1992.

Timothy R. Wagner, Professor: B.S., University of Wisconsin–River Falls, 1981; Ph.D., Arizona State University, 1986.

CIVIL/ENVIRONMENTAL AND CHEMICAL ENGINEERING

Anwarul Islam, Associate Professor: B.S., Bangladesh Univ. of Engin. and Tech., 1992; M.S., Florida State University, 2000; Ph.D., Florida State University, 2005.

Scott C. Martin, Professor: B.S., M.S., Ph.D., Clarkson University, 1977, 1979, 1984.

Douglas Price, Associate Professor: B.S., The Pennsylvania State University, 1984; M.S., Ph.D., University of Notre Dame, 1986, 1988.

COMMUNICATION

Rebecca Curnalia, Assistant Professor: B.A., Olivet College, 2001; M.A., Northern Illinois University, 2003; Ph.D., Kent State University, 2007.

Adam C. Earnhardt, Associate Professor: B.S., M.S., Clarion University of Pennsylvania, 1995, 1999; Ph.D., Kent State University, 2007.

Cary W. Horvath, Associate Professor: B.A., Youngstown State University, 1989; M.A., Ph.D., Kent State University, 1993, 1999.

George McCloud, Professor: B.A., Eastern Michigan University, 1967; M.A., Ph.D., University of Michigan, 1968, 1975.

Daniel J. O'Neill, Professor: B.A., Wayne State University, 1961; M.A., Bowling Green State University, 1962; Ph.D., Michigan State University, 1969.

Jeff Tyus, Assistant Professor: B.S.C., M.A., Ph.D., Ohio University, 1993, 1995, 1999.

COMPUTER SCIENCE AND INFORMATION SYSTEMS

Alina Lazar, Associate Professor: B.S., Western University of Timisoara, 1995; Ph.D., Wayne State University, 2002.

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INDEX

- A**
- academic calendar 5–6
 - academic progress 33–36
 - academic standards 34–35
 - academic support services 15–22
 - accounting
 - courses 175–177
 - faculty 265
 - specialization 84
 - accounting and finance
 - courses 175–177
 - faculty 265
 - accreditation 10
 - administrative specialist license 128–129
 - admission 27–30
 - international 30
 - nondegree 29
 - procedure 28
 - provisional 29
 - regular 29
 - requirements 28–29
 - test information 28
 - transient 29
 - American studies
 - courses 177–178
 - Master of Arts in American studies 63–65
 - anthropology courses 254–255
 - Master of Science in applied behavior analysis 103–104
 - art
 - courses 178–179
 - faculty 265
 - Master of Arts in Art Education 66–68
 - assessment 10
 - assistantships 49–50
 - auditing courses 36
 - autism spectrum and related disabilities certificate 165
 - awards 52–53
- B**
- biological sciences
 - courses 179–183
 - faculty 265–266
 - Master of Science in biology 105–107
 - Board of Regents 4
 - Board of Trustees 4
 - bookstore 19
 - business administration
 - Master of Business Administration 82–84
- C**
- calendar, academic 5–6
 - campus, description of 11–15
 - career services 17–18
 - Ctr. for International Studies and Programs 16–17
 - certificates, graduate 165–174
 - change of curriculum 36
 - charges 38–39, 43–45
 - chemical engineering
 - courses 183
 - faculty 267
 - option 149
 - chemistry
 - courses 183–186
 - faculty 266–267
 - Master of Science in chemistry 108–109
 - civil/environmental engineering
 - courses 186–188
 - faculty 267
 - option 150
 - Code of Student Rights, Responsibilities, and Conduct, The 37
 - commencement 36
 - communication
 - program 79–81
 - courses 188–189
 - faculty 267
 - Computer Center 16
 - computer science and information systems
 - courses 189–190
 - faculty 267–268
 - Master of Computing and Information Systems 85–86
 - core values (University) 7–8
 - counseling
 - courses 191–196
 - faculty 268
 - Master of Science in Education—Counseling 119–125
 - counseling and special education
 - courses 191–199
 - faculty 268
 - counseling services 18
 - course numbering system 53
 - courses, graduate 33, 175–262
 - for undergraduates 34
 - creative writing
 - Master of Fine Arts in creative writing 87–89
 - criminal justice
 - courses 201–203
 - faculty 268
 - Master of Science in criminal justice 110–111
 - Curriculum Resource Center 16
 - Cushwa/Commercial Shearing fellowships 50
- D**
- degrees granted 10
 - development of The School of Graduate Studies and Research 26
 - dining, campus 21–22
 - dissertation 33

Doctor of Education in educational leadership 54-57
 Doctor of Physical Therapy 61-62
 courses 244-247
 faculty 275
 Doctor of Philosophy in Materials Science 58-60
 courses 230-231

E

economics
 courses 203-205
 faculty 268-269
 Master of Arts in economics 69-70
 education
 Doctor of Education in educational leadership
 54-57
 foundations of education courses 216-217
 Master of Science in Education 119-146
 counseling 119-125
 courses 191-196
 faculty 268
 educational administration 126-131
 courses 205-208
 faculty 269
 educational technology 135-136
 school psychology 132-134
 courses 199-201
 faculty 276
 special education program 137-140
 courses 196-199
 faculty 268
 teacher education 141-146
 certificate
 autism spectrum and related
 disabilities 165
 courses 255-262
 faculty 276-277
 programs:
 curriculum and instruction 144
 early childhood education 144
 content area concentration 144-145
 literacy master and/or reading (pre-K-12)
 endorsement 145-146
 educational administration
 courses 205-208
 faculty 269
 Master of Science in Education—educational
 administration 126-131
 educational leadership
 Doctor of Education in educational leadership
 54-57
 electrical and computer engineering
 courses 209-210
 faculty 269
 option 151
 employment, on-campus student 51
 engineering
 Master of Science in Engineering 147-153
 chemical engineering
 courses 183

 faculty 267
 option 149
 civil/environmental
 courses 186-188
 faculty 267
 option 150
 electrical and computer
 courses 209-210
 faculty 269
 option 151
 industrial and systems
 courses 225-227
 faculty 272
 option 152
 mechanical
 courses 236-237
 faculty 273-274
 option 153
 engineering and technology courses 211
 English
 certificates:
 literature for children and young adults 170
 professional writing and editing 172
 teaching English to speakers of other
 languages (TESOL) 173
 teaching of writing 174
 courses 211-214
 faculty 269-270
 Master of Arts in English 71-73
 English Language Institute 17
 Enterprise Resource Planning Certificate 166
 environmental studies
 certificate 167-168
 courses 217-219
 faculty 270-271
 Master of Science in environmental studies 112-
 115
 Equal Opportunity and Affirmation Action Policy 10
 executive officers 3

F
 faculty, graduate 265-277
 fees 38-43
 fellowships and awards 50-51
 finance
 courses 175-177
 faculty 265
 financial assistance 49-51
 federal financial aid 51
 financial economics
 courses 175-177, 203-205
 faculty 268-269, 265
 Master of Arts in financial economics 74-75
 fines 40,44
 foreign languages and literatures
 courses 215-216
 faculty 270
 foreign languages proficiency examinations 36
 foundations of education courses 216-217

French course 216
full-time status 34

G

general information 7-22
geography
 courses 217
 faculty 270
geological and environmental sciences
 certificate
 environmental studies 167-168
 courses 218-219
 faculty 270-271
geology
 courses 217-219
 faculty 270-271
German course 216
grade change 36
grading system 35-36
graduate assistant/intern 50
graduate programs 27, 54-164
graduate student representation 26-27
graduation application procedure 36
grievance procedure 263-264

H

health and human services
 certificate
 health care management 169
 courses 219-221
 Master of Health and Human Services 90-92
health care management certificate 169
health professions
 courses 221
 faculty 271
history
 courses 221-223
 faculty 271-272
 Master of Arts in history 76-78
history of YSU 9
housing 19-21
 charges 38, 43
human ecology
 courses 224
 faculty 272
human performance and exercise science
 courses 224-225
 faculty 272

I

index 278-282
industrial and systems engineering
 courses 226-227
 faculty 272
 option 152
information technology courses 227
international studies and programs 16-17
interrupted enrollment (readmission) 33-34
intrauniversity transfer 36
involuntary withdrawal 44-45

Italian course 216

L

Library, William F. Maag, Jr. 13, 15-16
literature for children and young adults certificate
 170

M

Maag Library 13, 15-16
management
 certificate, Enterprise Resource Planning 166
 courses 227-229
 faculty 272
marketing
 courses 229-230
 faculty 272-273
Master of Arts 63-81
 American studies 63-65
 courses 177-178
 art education 66-68
 courses 178-179
 faculty 265
 economics 69-70
 courses 203-205
 faculty 268-269
 English 71-73
 certificates:
 literature for children and young adults 170
 professional writing and editing 172
 teaching English to speakers of other
 languages (TESOL) 173
 teaching of writing 174
 courses 211-214
 faculty 269-270
 financial economics 74-75
 courses 175-177, 203-205
 faculty 265, 268-269
 history 76-78
 courses 221-223
 faculty 271-272
Master of Business Administration 82-84
Master of Computing and Information Systems 85-
 86
 courses 189-190
 faculty 267-268
Master of Fine Arts
 creative writing 87-89
Master of Health and Human Services 90-92
Master of Music 93-97
 courses 237-241
 faculty 274-275
Master of Public Health 98-100
 courses 250-251
Master of Science 103-159
 applied behavior analysis 103-104
 biology 105-107
 courses 179-183
 faculty 265-266
 chemistry 108-209
 courses 183-186

- faculty 266-267
 - criminal justice 110-111
 - courses 202-203
 - faculty 268
 - environmental studies 112-115
 - certificate 167-168
 - courses 217-219
 - faculty 2270-271
 - mathematics 116-118
 - courses 231-235
 - faculty 273
 - Master of Science in Education 119-146
 - counseling 119-125
 - courses 191-196
 - faculty 268
 - educational administration 126-131
 - courses 205-208
 - faculty 269
 - educational technology 135-136
 - special education program 137-140
 - courses 196-199
 - faculty 268
 - teacher education 141-146
 - certificate
 - autism spectrum and related disabilities 165
 - courses 255-262
 - faculty 276-277
 - programs
 - curriculum and instruction 144
 - early childhood education 144
 - content area concentration 144-145
 - literacy master and/or reading (pre- K-12) endorsement 145-146
 - Master of Science in Engineering 147-153
 - chemical engineering
 - courses 183
 - faculty 267
 - option 149
 - civil/environmental
 - courses 186-188
 - faculty 267
 - option 150
 - electrical and computer
 - courses 209-210
 - faculty 269
 - option 151
 - industrial and systems
 - courses 225-227
 - faculty 272
 - option 151
 - mechanical
 - courses 236-237
 - faculty 273-274
 - option 153
 - Master of Science in Nursing 154-159
 - certificate
 - nurse education 171
 - courses 241-244
 - faculty 275
 - Master of Social Work 160-164
 - courses 252-254
 - faculty 276
 - mathematics
 - courses 231-235
 - faculty 273
 - Master of Science in mathematics 116-118
 - mechanical engineering
 - courses 236-237
 - faculty 273-274
 - option 153
 - Metropolitan College 17
 - mission statement (School of Graduate Studies and Research) 26
 - mission statement (University) 7
 - music
 - courses 273-241
 - faculty 274-275
 - Master of Music 93-97
- N**
- nursing
 - courses 241-244
 - faculty 275
 - Master of Science in Nursing 154-159
 - certificate
 - nurse education 171
- O**
- ombudsperson 18
 - organization of School of Graduate Studies and Research 26
- P**
- payment of tuition and fees 41
 - philosophy and religious studies
 - courses 244
 - faculty 275
 - physical therapy
 - courses 244-247
 - faculty 275
 - Doctor of Physical Therapy 61-62
 - physics
 - courses 247
 - faculty 275
 - policies, university 263-264
 - political science
 - courses 247-248
 - faculty 276
 - posthumous degrees 37
 - principal license 128
 - principal certificate 130-131
 - professional writing and editing certificate 172
 - programs, graduate 27, 54-164
 - psychology
 - courses 248-249
 - faculty 276
 - Master of Science in applied behavior analysis

103-104
 public health
 courses 250-251
 Master of Public Health 98-100

R

readmission 32-35
 after academic suspension 35
 interrupted enrollment 33-34
 reduced load for employed students 34
 reduction/refund of fee charges upon withdrawal 44
 registration 31-32
 advisement 31
 change of registration 32
 complete withdrawal 32
 cross-registration 32
 procedure 31-32
 research at YSU 23-25
 residency (state) status 45-48
 respiratory care
 courses 251-252
 Master of Respiratory Care 101-102

S

scholarships 51
 second master's degree 33
 seminar 33
 service charges 39, 43
 social work
 courses 252-254
 faculty 276
 Master of Social Work 160-164
 sociology courses 254
 faculty 276
 Spanish courses 254
 special education
 courses 196-199
 faculty 268
 program 137-140
 special purpose fees 39
 standards, academic 34-35
 state residency status 45-48
 statistics
 courses 235-236
 faculty 273
 student center (Kilcawley Center) 13, 20
 student health clinic 18
 student ombudsperson 18
 student support services 15-22
 superintendent license 130
 suspension, academic 34-35

T

teacher education
 certificate
 autism spectrum and related disabilities 165
 courses 255-262
 faculty 276-277
 Master of Science in Education—teacher
 education 141-146

curriculum and instruction program 144
 content area concentration 144-145
 early childhood education program 144
 literacy master and/or reading (pre-K-12)
 endorsement program 145
 teaching English to speakers of other languages
 (TESOL) certificate 173
 teaching of writing certificate 174
 test information 28
 testing 18
 theater
 courses 262
 thesis 33
 time limit 32
 transfer credits 30-31
 tuition 38, 41

U

undergraduates, graduate courses for 34
 University policies 263-264

V

veterans 19
 vision statement 8
 visiting graduate students 37

W

workshops 30