6-1-2003

2003-2005 Wright State University Undergraduate Course Catalog

Wright State University

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Important Numbers

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General Information

Information Desk
775-5740  E147 Student Union
Telephone Registration: Raider Express
775-4400

Offices and Facilities

Admissions
Undergraduate Admissions, Office of
775-5700  E148 Student Union
Graduate Admissions
775-2976  E344 Student Union
International Student Programs
775-5745  E190 Student Union

School of Medicine
775-2934  210 Medical Sciences Bldg.
School of Professional Psychology
775-3492  110 Health Sciences Bldg.

Affirmative Action Programs
775-3207  436 Millett Hall

Alumni Relations
775-2620  108 Allyn Hall

Asian, Hispanic, and Native American Center
775-2798  154 Millett Hall

Athletics
775-2771  356 Nutter Center

Bolina Black Cultural Resources Center
775-5645  140 Millett Hall

Bookstore
775-5660  E182 Student Union

Bursar, Office of the
775-5650  E236 Student Union

Career Services
775-2556  E334 Student Union

Disability Services
775-5680  E186 Student Union

Educational Resource Center
775-2883  116 Allyn Hall

Financial Aid, Office of
775-5721  E136 Student Union

Frederick A. White Health Center
775-4580  Frederick A. White Health Center

Honors Program
775-2660  243 Millett Hall

Housing (Office of Residence Services)
775-4172  Forest Lane Community Building

Parking Services
775-5690  E138 Student Union

Personal Counseling Services Center
775-3407  Frederick A. White Health Center, 2nd Floor

Registrar, Office of the
775-5588  E244 Student Union

Student Employment, Office of
775-2326  E334 Student Union

Student Health Services
775-2552  118 Frederick A. White Health Center

Student Life, Office of
775-5570  W036 Student Union

Student Union Administrative Office
775-5522  E005 Student Union

Union Activities Board
775-5500  W028 Student Union

University College
775-5750  180 University Hall

University Libraries
Fordham Health Sciences Library
775-2003  125D Medical Sciences Bldg.
Paul Laurence Dunbar Library
775-4125, Hours
775-2525, Circulation

Veterans Affairs, Office of
775-5550  E244 Student Union

Women’s Center
775-4524  148 Millett Hall

Wright State Police
775-2111  118 Campus Services Building

Colleges and Schools

College of Education and Human Services
775-2821  415 Allyn Hall

College of Engineering and Computer Science
775-5001  405 Russ Engineering Center

College of Liberal Arts
775-2225  163 Millett Hall

College of Science and Mathematics
775-2611  134 Oelman Hall

Raj Soin College of Business
775-2437  110 Rike Hall

School of Graduate Studies
775-2976  E344 Student Union

School of Medicine
775-3010  114 Medical Sciences Bldg.

School of Professional Psychology
775-3490  117 Health Sciences Bldg.

WSU-Miami Valley College of Nursing and Health
775-3131  160 University Hall

Wright State University–Lake Campus
775-8304, 1-800-237-1477, 419/586-0300
100 Dwyer Hall, 7600 State Route 703, Celina, Ohio 45822
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Fall Quarter 2003
September 8–November 22, 2003
September 8, Monday/First Day of Class
November 11, Tuesday/Veterans’ Day (No Classes)
November 15, Saturday/Last Day of Class
November 17–22, Monday–Saturday/Final Examinations
November 22, Saturday/Fall Commencement

Winter Quarter 2004
January 5–March 20, 2004
January 5, Monday/First Day of Class
January 19, Monday/Martin Luther King Jr. Day (No Classes)
March 13, Saturday/Last Day of Class
March 15–20, Monday–Saturday/Final Examinations

Spring Quarter 2004
March 29–June 12, 2004
March 29, Monday/First Day of Class
May 31, Monday/Memorial Day (No Classes)
June 5, Saturday/Last Day of Class
June 7–12, Monday–Saturday/Final Examinations
June 12, Saturday/Spring Commencement

Summer Quarter 2004
June 14–August 19, 2004
June 14, Monday/First Day of Class, Terms A and C
July 5, Monday/Independence Day Observed (No Classes)
July 15, Thursday/Last Day of Class, Term A
July 19, Monday/First Day of Class, Term B
August 19, Thursday/Last Day of Class, Terms B and C

Proposed 2004–2005*

Fall Quarter 2004
September 7–November 20, 2004
September 7, Tuesday/First Day of Class
November 11, Thursday/Veterans’ Day (No Classes)
November 13, Saturday/Last Day of Class
November 15–20, Monday–Saturday/Final Examinations
November 20, Saturday/Fall Commencement

Winter Quarter 2005
January 3–March 19, 2005
January 3, Monday/First Day of Class
January 17, Monday/Martin Luther King Jr. Day (No Classes)
March 12, Saturday/Last Day of Class
March 14–19, Monday–Saturday/Final Examinations

Spring Quarter 2005
March 28–June 11, 2005
March 28, Monday/First Day of Class
May 30, Monday/Memorial Day (No Classes)
June 4, Saturday/Last Day of Class
June 6–11, Monday–Saturday/Final Examinations
June 11, Saturday/Spring Commencement

Summer Quarter 2005
June 13–August 18, 2005
June 13, Monday/First Day of Class, Terms A and C
July 4, Monday/Independence Day (No Classes)
July 14, Thursday/Last Day of Class, Term A
July 18, Monday/First Day of Class, Term B
August 18, Thursday/Last Day of Class, Terms B and C

*This proposed 2004–2005 Academic Calendar was not officially approved as this catalog went to press.
Wright State Today

Wright State University will help your dreams take flight. Named after the inventors of powered flight—Orville and Wilbur Wright—the university carries on their tradition of innovation. And with more than 100 undergraduate degrees and nearly 50 Ph.D., master’s, and professional degrees, the sky’s the limit.

Come check out the beautiful 557-acre wooded main campus yourself. You’ll find state-of-the-art facilities, a 200-acre biological preserve, and some of the newest, most modern student housing anywhere. Spread your wings with more than 150 student clubs and organizations.

In addition, the Wright State University—Lake Campus, a branch campus located between St. Marys and Celina, Ohio, offers associate and pre-baccalaureate degrees, and limited baccalaureate and master’s degree programs.

Whether it’s preparing students to take their place in our ever-changing world, conducting research that can improve our lives, or partnering with local communities and businesses, Wright State University is making an impact, both locally and globally. It’s no wonder more Miami Valley valedictorians chose Wright State over any other school in the nation for the last four years, according to the Dayton Daily News.

Innovation Is in the Air

A rich and dynamic community of more than 16,000 students, Wright State is a place where tomorrow takes flight. Located 12 miles northeast of Dayton, Ohio, Wright State is a nationally accredited state university with an impressive range of study. Its six colleges and three schools, including schools of medicine and professional psychology, offer opportunities for discovery and growth.

A full-size replica of the 1903 Wright Flyer hangs in the Dunbar Library atrium as a symbol of the Wright brother’s genius and innovation. The library is home to one of the world’s most complete collections of the Wright brothers’ papers and memorabilia.

Personal Attention From Faculty

Wright State was the only university in Ohio nationally ranked for “individual attention from faculty” in the 2002 Kaplan/Newsweek College Catalog. Most classes are small and taught by fully affiliated faculty members, 80 percent of whom hold the most advanced degrees in their fields. The faculty is dedicated to advancing the frontiers of knowledge, as well as applying it to real problems. Students gain hands-on experience through a variety of community-based programs, cooperative education, internships, service learning, and research projects.
Accreditation

The main accreditation agency for Wright State is the North Central Association of Colleges and Schools. A full listing of accreditations and memberships can be found in the Appendix.

National Recognition

Our students work hard and achieve national recognition. They’re gaining valuable skills and experience by competing with some of the best schools in the nation...and coming out on top!
- Only 4-time winner of the National Student Case Competition, sponsored by the Institute of Management Accountants
- National Model UN Conference, top awards for 24 years
- The most awards at the American College Theatre Festival
- First place, Ohio engineering design showcase
- Meritorious rating, International Mathematical Contest in Modeling
- Ohio Pediatric Nurse Practitioner Student of the Year
- Outstanding Student Teacher and Outstanding Cooperating Teacher for Ohio
- First place in the 2002 U.S. Institute of Theatre Technology’s “Backstage Olympics”
- Top ten, National Intercollegiate Ethics Bowl

Go, Raiders!

Wright State offers 16 Division I intercollegiate athletic programs, and many students participate in intramural sports programs. The Ervin J. Nutter Center, a multipurpose sports and entertainment complex, seats 10,632 for Wright State Raiders basketball games and up to 12,000 for top-name entertainers and shows.

There’s Plenty to Do

At Wright State, we’re active...like you. Our students are diverse, and our campus activities reflect a broad spectrum of interests and outlets. With more than 150 clubs and organizations, there’s something for everyone.

If you want to soar with the birds, try skydiving. If you have political aspirations, get involved in Student Government. If you don’t mind a few bumps and bruises, join the rugby team. Choose from 18 sororities and fraternities that focus on scholarship, service, and fun.

Hang out at the Student Union’s extensive recreational facilities, including a fitness center, gym, racquetball and squash courts, and an indoor pool. Outdoor Tree offers unique and exciting opportunities to go camping, canoeing, rock climbing, white-water rafting, skiing, horseback riding, scuba diving and more! Bicycles, backpacks, kayaks, skis, and other equipment are available to students.

Diversity Enriches Campus Life

At Wright State, we believe that welcoming students from diverse cultures strengthens and enriches the entire campus community. Bringing these students together with an active campus life creates a rich intellectual and social experience—a complete university experience.

Wright State is a national leader in accommodating the needs of students with disabilities. Most of the 24 campus buildings are connected by a unique underground tunnel system.

Some of the Best Campus Housing

While living on campus is not a requirement, 60 percent of all first-year students choose to do so. About 2,800 students live in attractive residence halls on or adjacent to campus. Year after year, they say how fantastic their campus living experience has been...and how great it was to stay in new, modernly equipped rooms that have all the comforts of home. You’ll find nice furniture, cable TV, air-conditioning, and Internet hook-ups. Plus, all students—even first-year students—may have a car on campus.

Community Partnerships Offer Real-World Experience

Wright State provides its students with unique opportunities to help solve real-world problems by addressing the educational, cultural, social, and economic needs of the Miami Valley. Students obtain relevant hands-on learning experiences through the university’s link to area corporations, community programs, health and social service agencies, and government organizations. This blending of academia with the larger community provides benefits for both.

The Lake Campus

The Lake Campus of Wright State University is situated between Celina and St. Marys on 173 scenic acres on the north shore of Grand Lake St. Marys. Through quality instruction and programs, the Lake Campus provides pre baccalaureate and technical education at the associate degree level and numerous courses leading to baccalaureate degrees.
With the additions of the College of Nursing and Health’s BSN outreach program, the College of Business and Administration’s MBA 2000 Program, and a 2 + 2 Technical Education program, the mission of the Lake Campus has grown to encompass bachelor, professional, and master degrees. In aiding members of the community to advance in their careers and to provide job specific training, the Lake Campus also offers seven certificate programs.

With its Business Enterprise Center and College Community Arts Council (in its 25th year), the college maintains its close ties to the business and cultural development of the community. The Lake Campus fosters education in the community while maintaining the highest possible levels of instruction, scholarly activity, professional service, and community involvement.

For more information on the Lake Campus, visit www.wright.edu/lake/ or phone (419) 569-0324 or (800) 237-1477.

**Student Life at Wright State**

Wright State has a diverse mixture of students with various educational goals and interests. The majority of our students—76 percent or about 11,900—are undergraduates, and of those, about 10,900 are full time. Although the majority of these students come from southwestern Ohio, many also come from other parts of Ohio, from almost every state in the nation, and from 69 other countries.

Over 2,800 students live in campus housing, in either traditional dormitory-style rooms, suite-style rooms, or apartments, all offering direct Internet connections. Nearly 1,300 freshman students chose to live on campus in fall 2002.

Many of our students are older (mean age is 25 years) and, in addition to their academic work, have other major responsibilities such as a family and/or full-time job. Many of these students attend classes in the evening, a time that sees almost as much campus activity as during the day. Regardless of background and career goals, our students provide the basis for a campus rich in cultural and intellectual diversity.

Both commuting and residential students make for an active campus life. Over 100 student clubs and organizations provide recreational, professional, and entertainment activities. Also popular are the university’s two theatres and concert halls, and the Student Union, which has extensive recreational facilities, including a fitness center, a small gymnasium, racquetball and squash courts, and an Olympic-size indoor pool.

Wright State students have distinguished themselves academically, both on the state and national level. For example, Wright State students compete with 200 colleges and universities from fifteen different countries that debate each year at the Model United Nations program held in New York City and now hold the longest winning streak on record—22 years. The Ohio Society of Professional Engineers awarded our student team first place in a statewide senior design showcase. More valedictorians in the Miami Valley chose Wright State in 2000 than any other school in the nation, according to the *Dayton Daily News*.

In recognition of its innovations in teaching and research, the Department of Mathematics and Statistics has received Academic Challenge Grants from the Ohio Board of Regents and highly selective external funding awards from the National Science Foundation and other federal agencies. In addition, undergraduate students in the Department of Mathematics and Statistics compete each year in the William Lowell Putnam Mathematical Competition.

The student is the focus of attention at Wright State University. Although Wright State students do not easily fall into specific categories, all are valued for their unique talents and contributions. In a supportive learning environment, Wright State faculty challenge their students, encouraging them to realize their potential, to reach their goals, and to fulfill their dreams. As a result, Wright State continues to attract achievement-oriented students who are eager to learn.

**Wright State Snapshot**

**The University:** Nationally accredited, state university with 106 undergraduate degrees and 46 graduate or professional degrees

**Founded:** 1964. Granted full university status in 1967

**Location:** Main campus, 12 miles northeast of Dayton, Ohio. Lake Campus, near St. Marys and Celina, Ohio

**Enrollment:** Approximately 12,500 undergraduate students and 4,000 graduate, professional, or doctoral students. (Fall 2002)

**Student Body:** Approximately 94% Ohio residents, 12% minority students, and international students representing 69 foreign countries

**First-Year Student Profile:**

*(Fall 2002)*

New first-year students, 2,664

Mean high school grade point average, 2.99

ACT middle 50%, 19-25

SAT middle 50%, 900-1140

**Student Organizations:** More than 150

**Athletics:** The Wright State Raiders compete in the NCAA Division I Horizon League in baseball, basketball, cross country, golf, soccer, softball, swimming and diving, tennis, track, and volleyball

**Faculty:** 700; 80 percent hold the highest degree in their fields
Average Class Size: 25

Student-Faculty Ratio: 20:1

Libraries: The Paul Laurence Dunbar Library contains over 675,000 bound volumes, 440,000 government documents, and 4,100 periodical subscriptions. The Fordham Health Sciences Library contains over 110,000 bound volumes, and 1,231 periodical subscriptions. Electronic resources include more than 100 research databases, 4,300 electronic journals, and 14,000 e-books.

Computer Resources: State-of-the-art computer labs are located throughout campus. World Wide Web access is available to all students and faculty. Technical support is available 11 hours a day.

Residential Facilities: Hamilton Living/Learning Community (double and triple rooms); The Village (efficiency, deluxe efficiency, one- and two-bedroom apartments); The Woods (double and quad suites); Honors (double suites); Forest Lane Apartments (two bedroom units); College Park Apartments (four bedroom, two baths)

Financial Assistance: In 2002-2003, 65 percent of all students were awarded some form of financial aid.

Scholarships: Wright State offers many merit-based scholarships, including: academic performance, talent, and competitive honors.
ACADEMIC PROGRAMS
Colleges and Schools

Wright State University offers undergraduate programs in the Raj Soin College of Business and the Colleges of Education and Human Services, Engineering and Computer Science, Liberal Arts, Nursing and Health, and Science and Mathematics, and through the Wright State University–Lake Campus. The University College offers programs and advising for virtually all Dayton campus undergraduate students, including transfer students. Graduate programs are offered through the School of Graduate Studies. The Schools of Medicine and Professional Psychology offer professional and other postbaccalaureate programs.

Wright State grants these baccalaureate degrees:
Bachelor of Arts (B.A.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.M.), Bachelor of Science (B.S.), Bachelor of Science in Biomedical Engineering (B.S.B.E.), Bachelor of Science in Business (B.S.B.), Bachelor of Science in Computer Engineering (B.S.C.E.), Bachelor of Science in Computer Science (B.S.C.S.), Bachelor of Science in Education (B.S.Ed.), Bachelor of Science in Electrical Engineering (B.S.E.E.), Bachelor of Science in Engineering Physics (B.S.E.P.), Bachelor of Science in Human Factors Engineering (B.S.H.F.E.), Bachelor of Science in Industrial and Systems Engineering (B.S.I.S.E.), Bachelor of Science in Materials Science and Engineering (B.S.M.S.E.), Bachelor of Science in Mechanical Engineering (B.S.M.E.), Bachelor of Science in Clinical Laboratory Science (B.S.C.L.S.), and Bachelor of Science in Nursing (B.S.N.).

The following associate degrees, available only at the Wright State University–Lake Campus, are also granted: Associate of Arts (A.A.), Associate of Science (A.S.), Associate of Applied Business (A.A.B.), Associate of Applied Science (A.A.S.), and Associate of Technical Study (A.T.S.).

The following descriptions give a brief overview of the colleges and schools and list the fields of study for which Wright State offers baccalaureate degree programs.

Raj Soin College of Business—see page 71

Bachelor of Science in Business degree programs are offered with majors in accountancy, business economics, finance, financial services, human resource management, international business, management, management information systems, operations management, and marketing. The college also offers a Master of Business Administration degree, a Master of Accountancy, and a Master of Science in Social and Applied Economics degree.

Baccalaureate Programs in Business and Administration

Accountancy (B.S.B.)
Business Economics (B.S.B.)
Finance (B.S.B.)
Financial Services (B.S.B.)
Human Resource Management (B.S.B.)
International Business (B.S.B.)
Management (B.S.B.)
Management Information Systems (B.S.B.)
Marketing (B.S.B.)
Operations Management (B.S.B.)

College of Education and Human Services—see page 83

The College of Education and Human Services assumes responsibility for one of the university's primary functions: preparing teachers, educational leaders, and professionals in health, education, and human services. Many programs within the college lead to licensure by the Ohio Department of Education. The Departments of Educational Leadership, Teacher Education, Health and Physical Education, and Human Services prepare licensed and nonlicensed leaders for public and private schools, industry, and for community agencies. These leaders include public school teachers, principals, curriculum supervisors, central office administrative specialists, school guidance counselors, personnel counselors, rehabilitation specialists, community and mental health counselors, and student affairs (higher education) practitioners.

The Bachelor of Science in Education degree and the Bachelor of Science degree with majors in rehabilitation and organizational leadership are offered. The college also offers programs leading to the Master of Arts, Master of Education, Master of Rehabilitation Counseling, Master of Science, and Educational Specialist degrees.

Baccalaureate Programs in Education and Human Services

Athletic Training (B.S.Ed.)
Early Childhood Education (Pre-K–3, Ages 0–8) (B.S.Ed.)
Health Education and Physical Education (Multi-Age, Pre-K–12, Ages 3–21) (B.S.Ed.)
Integrated Business Education (B.S.Ed.)
Marketing Education (B.S.Ed.)
Middle Childhood Education, Grades 4–9 licensure requires completion of a graduate level program (B.S.Ed.)
Organizational Leadership (B.S.)
Rehabilitation Services (B.S.)
Vocational Education (B.S.Ed.)
College of Engineering and Computer Science—see page 101

The college offers programs leading to Bachelor of Science degrees. Programs of study include biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, human factors engineering, industrial and systems engineering, materials science and engineering, and mechanical engineering. Each of the programs includes cooperative education opportunities. The college also offers master’s degrees and a doctoral degree in computer science and computer engineering.

Baccalaureate Programs in Engineering and Computer Science

- Biomedical Engineering (B.S.B.E.)
- Computer Engineering (B.S.C.E.)
- Computer Science (B.S.C.S.)
- Electrical Engineering (B.S.E.E.)
- Engineering Physics (B.S.E.P.)
- Human Factors Engineering (B.S.H.F.E.)
- Industrial and Systems Engineering (B.S.I.S.E.)
- Materials Science and Engineering (B.S.M.S.E.)
- Mechanical Engineering (B.S.M.E.)

College of Liberal Arts—see page 117

The college offers programs in the fine arts, social sciences, and the humanities which lead to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Science degrees. Many different career orientations are available through liberal arts studies. The college also offers master’s degrees.

Baccalaureate Programs in Liberal Arts

- Acting (B.F.A.)
- Acting—Musical Theatre (B.F.A.)
- African and African American Studies (B.A.)
- Anthropology (B.A.)
- Art (B.A., B.F.A.)
- Art Education (B.F.A.)
- Art History (B.A.)
- Art History/Art Studio (B.A.)
- Classical Humanities (B.A.)
- Communication Studies (B.A.)
- Criminal Justice (B.A.)
- Dance (B.F.A.)
- Economics (B.A.)
- English (B.A.)
- English: Integrated Language Arts (B.A.)
- French (B.A.)
- Geography (B.A., B.S.)
- German (B.A.)
- Greek (B.A.)
- History (B.A.)
- Integrated Language Arts/English Education (B.A.)
- International Studies (B.A.)
- Latin (B.A.)
- Liberal Studies (B.A.)
- Mass Communication (B.A.)
- Modern Languages (B.A.)
- Motion Picture History, Theory, and Criticism (B.A.)
- Motion Picture Production (B.F.A.)
- Music (B.A.)
- Music Education (B.M.)
- Music History and Literature (B.M.)
- Music Performance (B.M.)
- Organizational Communication (B.A.)
- Philosophy (B.A.)
- Political Science (B.A.)
- Religion (B.A.)
- Selected Studies (B.A., B.F.A.)
- Social and Industrial Communication (B.A.)
- Social Science Education (B.A.)
- Social Work (B.A.)
- Sociology (B.A.)
- Spanish (B.A.)
- Theatre Design/Technology/Stage Management (B.F.A.)
- Theatre Studies (B.A.)
- Urban Affairs (B.A., B.S.)
- Women’s Studies (B.A.)

*Dual major

College of Science and Mathematics—see page 167

The college offers programs leading to the Bachelor of Science, Bachelor of Science in Clinical Laboratory Science, and Bachelor of Arts degrees, as well as interdisciplinary programs. The college also offers master’s degrees and doctoral degrees.

Baccalaureate Programs in Science and Mathematics

- Biological Sciences (B.S., B.A.)
- Biological Sciences Education (B.S., B.A.)
- Chemistry (B.S., B.A.)
- Chemistry Education (B.S.)
- Clinical Laboratory Science (B.S.C.L.S.)
- Environmental Health Sciences (B.S.)
- Geological Sciences (B.S., B.A.)
- Geological Sciences Education (B.A.)
- Integrated Science Education (B.S.)
- Mathematics (B.S., B.A.)
- Mathematics Education (B.S.)
- Physics (B.S., B.A.)
- Physics Education (B.A.)
- Psychology (B.S., B.A.)
Wright State University–Miami Valley College of Nursing and Health—see page 163

The program in nursing at Wright State leads to the Bachelor of Science in Nursing degree, which qualifies the graduate for the National Council of State Boards Licensing examination (NCLEX) required for state licensure as a registered nurse. The college also offers a B.S.N. completion program for registered nurses and a Master of Science program.

Baccalaureate Program in Nursing
Nursing (B.S.N.)

University College—see page 61

The University College programs assist students in transitioning to university life and developing the necessary skills to ensure their entrance into the Wright State college and major of their choice. The University College provides academic advising; tutoring and testing services; a leadership development program; basic courses in reading, writing, mathematics, and college student strategies; and the First-Year Seminar and learning communities. An academic advising center and mathematics learning center also offer free individualized assistance to students.

Minors

A minor program is a structured and coherent secondary concentration of study. It gives undergraduates the option of studying a second field of specialization in addition to a major as part of their studies at the university. Students interested in pursuing a minor should confer with the appropriate department for details.

The university offers minors in the following areas:

- African and African American Studies
- Anthropology
- Biological Sciences
- Business
- Classical Humanities
- Communication
- Computer Science for Engineers and Scientists
- Engineering and Information Technology
- Economics
- Environmental Health Sciences
- English
- French
- Geography
- Geological Sciences
- International Trade
- Management
- Management Information Systems
- Marketing
- Materials Science and Engineering
- Mathematics
- Music
- Operations Management
- Philosophy
- Physics
- Political Science
- Psychology
- Rehabilitation Services
- Religion
- Sociology
- Spanish
- Statistics
- Urban Affairs
- Women’s Studies

Certificates

The university’s main campus offers certificate programs in the following areas: cartography, photogrammetry and remote sensing; gerontology; nonprofit administration; object-oriented programming; professional writing; teaching English to speakers of other languages (TESOL); research/intelligence analysis; teaching English as a Foreign language (TEFL); and technical writing. The WSU–Lake Campus offers certificates in CAD/CAM, management and advanced management, desktop publishing, word/information processing; micro-computer applications, software applications, and Photoshop design and applications.

Lake Campus

The Lake Campus offers the Associate of Arts and Associate of Science degrees, as well as a variety of two-year Associate of Applied Business, Associate of Applied Science, and Associate of Technical Study degree programs. These programs and other degree programs are described in more detail beginning on page 197.

The School of Graduate Studies

The School of Graduate Studies is responsible for 40 master’s degree programs: a post-master’s degree program (Educational Specialist), Doctor of Philosophy degree programs in biomedical sciences, computer science and engineering, engineering, environmental sciences, and human factors and industrial/organizational psychology, as well as courses for licensure programs in education and courses for various graduate certificate programs. Master’s degrees are offered in the following fields of study:

- Master of Accountancy
- Master of Arts
- Master of Business Administration

Applied behavioral science, classroom teacher, counseling, educational administrative specialist, educational leadership, English, history, intervention specialist, pupil personnel services, selected graduate studies

Accounting, administration of nursing and health care systems, business economics, finance, flexible business, international business, management,
innovation and change, management of information technology, marketing, project management, supply chain management, undecided

Master of Education
Classroom teacher, educational administrative specialist, educational leadership, intervention specialist, pupil personnel services, undecided

Master of Humanities

Master of Music
Music education

Master of Public Administration

Master of Rehabilitation Counseling
Chemical dependency, severe disabilities

Master of Science
Administration of nursing and health care systems, aerospace medicine, anatomy, applied statistics, biochemistry and molecular biology, biological sciences, chemistry, computer science, counseling, environmental sciences, geological sciences, human factors and industrial/organizational psychology, mathematics, microbiology and immunology, nursing, pharmacology and toxicology, physics, physiology and biophysics, selected graduate studies, social and applied economics

Master of Science in Computer Engineering

Master of Science in Engineering
Biomedical, electrical, human factors, materials science and engineering, mechanical

Master of Science in Teaching
Earth science, interdisciplinary science and mathematics, physics

The School of Medicine
The School of Medicine’s educational program prepares students for graduate medical education (residency training) in their field of choice. Graduates of this four-year program receive the Doctor of Medicine (M.D.) degree.

The School of Professional Psychology
The School of Professional Psychology offers a doctoral program in clinical psychology that prepares students for work as professional psychologists. The program requires approximately five years of study and grants the Doctor of Psychology (Psy.D.) degree.

Alternative Academic Programs
University Honors Program
The University Honors Program is designed to meet the special needs of a diverse population of academically well-prepared students. First-year students can qualify by meeting two of the following criteria:

- a high school GPA of 3.25 or better;
- a ranking in the top 10 percent of their graduating class; or
- a score at or above the 90th percentile on the ACT.

Continuing Wright State students and transfer students with a GPA of 3.0 or better are eligible to participate.

The Honors Program is also interested in students who may not quite meet these qualifications but who bring some special contribution or determination to the program. Such students will be permitted to enroll in selected honors courses where they can demonstrate that they merit full participation.

The Honors curriculum offers three types of undergraduate courses: most general education courses are presented in special Honors sections; popular introductory courses in certain majors are offered as Honors courses; and special interdisciplinary courses are offered for sophomores, juniors, and seniors. Honors students also pursue special programs of study in their majors, usually in their junior or senior year. These programs involve independent study with a faculty mentor and culminate in a research report, design project, or senior thesis. Each department, college, or school has its own admissions and performance criteria, which are available for review in the Honors office.

Students may graduate with one of three Honors designations by completing the following sets of requirements:

A. To graduate with the distinction “University Honors Scholar,” students must

1. Complete eight Honors courses with grades of B or better, including (a) at least one course from the UH 201, 202, 203 sequence; (b) at least three courses that are classified as General Education courses (these may include UH 201, 202, 203); and (c) at least two interdisciplinary seminars (UH 400).
2. Successfully complete a departmental, school, or college Honors program.
B. To graduate with the distinction “General Studies Honors Scholar,” students must complete eight Honors courses (as described above for “University Honors Scholars”) with grades of “B” or better and attain a cumulative GPA of 3.4 or better.

C. To graduate “With Honors” in their major fields, students must complete a departmental, school, or college Honors program.

Students normally complete the Honors Program by taking three Honors courses their first year, three as a sophomore, one as a junior, and one as a senior. However, students are free to take as many or as few courses as their interest and program requirements permit. All Honors courses are designated as Honors on transcripts, and students who complete the program receive special designations on their transcripts and recognition in the commencement program.

The Honors Program also offers opportunities for social, cultural, and leadership development through participation in the Student Honors Association; Service Learning; the Mid-East Honors Association; the National Collegiate Honors Council; and the University Honors Committee. A new 384-bed Honors Community residence hall opened in the fall of 2002. It features a faculty member in residence, a classroom, a 25-station computer lab, a big screen TV, lounge, and other social and study space. Programming will focus on issues and ideas and allow residents to become involved in service floors or theme floors. The Honors Community also houses services such as computer support (CaTS) and campus security. A convenience store and deli and a coffee shop are also located on the premises.

The Honors Program awards scholarships to both incoming and continuing honors students. Small grants are available for students working on honors projects, and some financial assistance is available for Honors Program students who wish to study abroad.

Interested students should contact the Honors Program office for further information and applications: (937) 775-2660, 243 Millett, honors@wright.edu

Preprofessional Programs

Premedical and Predental Study

There is no specific preferred major for premedicine or predentistry. Students may choose from a variety of undergraduate majors; however, they need to complete certain required courses for admission. Most applicants major in biology or chemistry, but it is important to choose a major in a field of interest to the student. Numerous majors allow students to take required pre-med courses and use the credits to fulfill electives in the major. In addition, there are numerous recommended courses, primarily in the sciences, which would make students more competitive applicants. Since the competition for admission is so strong, each student needs to maintain a high GPA (approximately a 3.5), do well on the Medical College Admission Test (MCAT), which is generally taken in April of the junior year, and be active in community volunteer work.

Planning and performance are important. Students should work with an academic advisor to plan the freshman-year class schedule, which would, ideally, include chemistry 121, 122, and 123, among other courses. A student with Math Placement Level of 3 or lower may be delayed entrance into chemistry courses, so it is important to plan ahead.

Beginning their sophomore year, students should meet annually with the premedical advisor to plan their class schedules and make sure that they are taking the required courses. The premedical advisor also can suggest other courses that will help improve a student’s performance on the MCAT.

The following courses are required for medical school admission, (depending on the student’s major, they may be taken as part of the degree requirements or in addition to the degree requirements):

- BIO 111 Principles of Human Biology
- BIO 112 Cell Biology and Genetics
- BIO 115 Diversity and Ecology
- CHM 121 Submicroscopic Chemistry
- CHM 122 Macroscopic Chemistry
- CHM 123 Reaction Dynamics
- CHM 211/215 Organic Chemistry I and lab
- CHM 212/216 Organic Chemistry II and lab
- CHM 213/217 Organic Chemistry III and lab
- PHY 111/101 Physics I and lab
- PHY 112/102 Physics II and lab
- PHY 113/103 Physics III and lab
- ENG 101,102, and one other writing course (for a total of one year of English)
- MTH College Algebra and Trigonometry (MTH 130 and 131 or MTH 134)

Recommended courses include:
- BMB 421, 423, and 427 Biochemistry and Molecular Biology
- P&B 301 and 302 Human Physiology
- M&I 220 Pathogenic Microbiology
- ANT 201 and 202 Human Anatomy
- BIO 210, 211, and 212 Molecular Biology, Cell Biology, and Genetics
- PHR 340 Pharmacology
- PHL 378 or REL 378 Bioethics

Students who have received Advanced Placement (AP) credits from their high school science courses should take additional upper-level courses in those sciences to demonstrate proficiency. For example, a student who has placed out of a
whole year of biology (BIO 111, 112, 115) should be sure to take some 200-level biology courses to demonstrate the ability to achieve in college-level biology.

Prelaw Study

Prelaw is not a major or degree program, so students are free to choose from a wide variety of undergraduate majors. Many different areas of study can prepare students for law studies. When choosing a major, students should select an area in which they have a strong interest and in which they can do well academically. The prelaw advisor at Wright State will help plan a personal prelaw program.

To a large extent, admission to law school depends on the basic skills that students master as an undergraduate. The ability to communicate, reason clearly, and think independently are more important than the area of a student’s major. Many disciplines help build these skills. Speaking and writing skills can be sharpened in a history class as well as in a literature class, and reasoning ability can be developed in a chemistry lab as well as in a philosophy seminar.

Competition for admission to law school is keen, and a student’s academic record is one of the key criteria. A major in political science, business, history, or other fields connected with law does not guarantee admission. An excellent academic record in the sciences, math, languages, or other areas that are not usually associated with law may have equal or even greater appeal to law schools.

Suggested Courses for Prelaw Study

The following courses can provide a taste of what the study of law is about and what those who choose a legal career can expect. Students may take as many or as few of these courses as they like. These courses are neither a prelaw program nor prerequisites for law school, and they do not relate to the intensive approach used in law school studies.

ACC 204, 205 Accounting Principles I, II
COM 232 Argumentation and Debate
EC 204 Principles of Microeconomics
EC 205 Principles of Macroeconomics
EC 351 Labor Markets
EC 420 Law and Economics
ENG 240 Intermediate Composition
FIN 310 Financial Management I
FIN 311 Financial Management II
FIN 332 Real Estate Law
FIN 462 Estate Planning
LAW 300 The Legal Environment of Business
LAW 420 Legal Aspects of Managing a Diverse Workforce
LAW 480 Special Topics in Law
PHL 124 Social Ethics and Values
PHL 211 Introduction to Ethics
PHL 215 Inductive Logic
PHL 223 Symbolic Logic I
PHL 378 Ethics and Medicine
PHL 472 Philosophy of Social Science
PLS 340 Law and Society
PLS 342 Civil Liberties I
PLS 343 Civil Liberties II
PLS 436 Criminal Law
PLS 437 Criminal Procedure
PLS 438 Environmental Law and Policy
PLS 439 Bioethics and Law
PLS 440 Constitutional Law
PLS 442 American Criminal Justice System
PLS 443 Administrative Law Procedure
PLS 471 International Law
PLS 482 Legislative Internship
PLS 484 Prelaw Internship

Cooperative Education

Cooperative education provides students with the opportunity to work full or part-time in career-related positions. Through cooperative education, students enhance their professional preparation by
developing job-related skills, test career interests, relate their course of study to practical work situations, and earn income to meet educational expenses. Students enroll in the CPE, cooperative education course to record co-op experiences on their transcripts. Academic credit for work experience may be earned in some academic departments. Career Services staff enroll students in the CPE course and monitor their learning.

Interdisciplinary Study

Interdisciplinary study gives students a chance to explore different areas or to tailor a major to their interests. Many courses are offered jointly by cooperating departments, including African and African American Studies, Integrated Language Arts, Social Science Education, International Studies, and Women's Studies. Students can also combine work in two different departments for a double or dual major. The selected studies major offered by the College of Liberal Arts allows students to pursue a self-designed course of study, culminating in a senior project, in an area where a major is not currently available. For more information on any of the programs, students should see the selected studies advisor.

Consortium

Wright State students also have hundreds of additional courses available to them through the university’s membership in the Southwestern Ohio Council for Higher Education, an association that includes many colleges and universities in the area. Full-time students at Wright State may cross-register for credit at member schools at Wright State’s tuition rates as long as class space is available, they have their advisor’s consent, and the course isn’t offered at Wright State. They must also meet course and host college prerequisites.

The consortium also offers cooperative library privileges to students at all member institutions. These library holdings total more than a million volumes.

Student Exchange and Study Abroad

Students can study abroad through a variety of international programs offered through Wright State. The Ambassador Program—offered at various locations around the world—provides an opportunity to study the societies and cultures of other countries and to earn academic credit while doing so. Wright State is a member of the USAC study abroad consortium. If offers a full array of courses focusing on foreign language acquisition and the study of a variety of academic disciplines. Several of the latter-type of courses are taught in English. Courses can be taken during a summer, semester, or year academic program. The consortium teaching sites include: Australia, Chile, China, Costa Rica, Czech Republic, Denmark, England, France, Germany, Ghana, Israel, Italy, Malta, New Zealand, Scotland, Spain, and Thailand. Wright State also offers individualized student exchange programs with universities in Brazil, Chile, France, Germany, Japan, Korea, Spain, and Sweden. On these programs, students pay Wright State tuition and local room and board costs while abroad. In the case of all Wright State exchange and study abroad programs, students can apply their student scholarships and loans to their studies.

Officer Training/ROTC

The Army and Air Force offer the Reserve Officer Training Corps (ROTC) program to all qualified students. The purpose of ROTC is to educate selected men and women for positions of responsibility and afford them the opportunity to be commissioned as second lieutenants in the Army and Air Force. The Army also offers the option for duty in the National Guard or Reserves.

The first two years of both programs have no military obligation. Each offers a competitive scholarship program and depending on the scholarship amount pays the student’s tuition, buys all books, and provides $200 a month. Students involved in the Advanced (Army) or contracted in the Professional Officer (Air Force) course also receive $200 a month during the school year.

Both programs are available to students with only two or three years remaining in their degree program. Two-year and compression programs have been established to make the ROTC program available to freshmen and sophomores or to juniors and seniors who will be enrolling in graduate study. Through a special program, advanced placement credit may be given to veterans, JROTC students, and sophomore students who attend a five-week AROTC Basic Camp. Graduate students with two years of school remaining are eligible for both ROTC programs.

The Army program is administered in two parts. The basic course emphasizes practical leadership and management skills that are equally applicable to both military organizations and private industry. The advanced course is designed to prepare students to be commissioned officers by including practical study in tactics, training, management, leadership techniques, and the exercise of command. During the summer quarter between the junior and senior years, students attend a five-week ROTC Advanced Camp that provides them with the opportunity to apply the
leadership and technical training received in the classroom. While at camp, cadets are paid half of the salary of a second lieutenant.

The Air Force ROTC programs are the General Military Course (GMC) and Professional Officer Course (POC). The GMC introduces students to the Air Force and its history through one hour of class and two hours of leadership laboratory each week. The POC consists of courses in management, leadership, American defense policy, and introduction to command. Six courses involving three hours of class and two hours of leadership laboratory each week are required. Summer field training, which emphasizes leadership development and experience in the military environment, is four or five weeks long and is normally attended between the sophomore and junior years.

Further information is available in the Department of Military Science (Army) and the Department of Aerospace Studies (Air Force). (937) 775-2730, and at our Web site, www.wright.edu/academics/prog/rotc.

Writing Assistance

The University Writing Center provides free writing consultation. Undergraduate and graduate students are available to help students with every stage of the writing process and with assignments across the curriculum. Students may also receive help using one of the center’s 13 networked computers.

The Writing Center also offers individual workshops each quarter. These specialized workshops offer review of grammar and punctuation, research formats, and essay exam preparation. The center also maintains a Writer’s Hotline for students and staff.

Learning English for Academic and Professional Purposes (LEAP)

For non-native speakers of English wishing to study at an American college or university, Wright State offers the Learning English for Academic and Professional Purposes (LEAP) Intensive English Program.

Benefits of the LEAP Program include 10 weeks of instruction in small classes that allow for individual attention. The instruction includes intensive speaking, listening, reading, writing, grammar, and the latest computer technology, including Web browsing and e-mail. Students are instructed by experienced faculty with advanced degrees in teaching English as a second language or a related field, and by adjunct instructors closely supervised by more experienced faculty. The LEAP Program also features regular meetings with native English-speaking conversation partners and scheduled sessions with trained tutors in the University Writing Center.

Holders of F-1 visas must be enrolled full-time in the LEAP Program, although a part-time course of studies is available for immigrants and visitors. The LEAP Program is not subject to WSU tuition or fee waivers. For more information, please call (937) 775-2505 or e-mail richard.johns@wright.edu.

University Libraries

The Wright State University Libraries include the Paul Laurence Dunbar Library and the Fordham Health Sciences Library located in the Medical Sciences Building.

The University Libraries are members of OhioLINK, an advanced computer network providing access to over 31 million library items in Ohio’s university, college, and State Library collections. Students can order books online from OhioLINK libraries and receive them for check-out within two to three days. OhioLINK resources also include scores of research databases and the full text of thousands of journals and other works.

The Libraries’ information research system uses a Web-based interface to provide integrated access to local and OhioLINK resources plus many other resources available on the Internet. The Libraries’ Web site is http://www.libraries.wright.edu

Other Services

- Instructional sessions for all library services and resources
- Current periodicals and microfilm resources (microfilm readers and printers)
- Course reserves (online and print)
- Media collections (videos, films, preview equipment)
- 20,000 music scores and over 6,000 musical recordings
- Reference assistance (individual or group instructions and handouts)
- Interlibrary loan services for items not available at Wright State or through OhioLINK
- The Student Technology Assistance Center (STAC) offers various software and hardware plus personalized assistance for students to complete class assignments requiring electronic presentations, graphics, Web page design, and more.
Paul Laurence Dunbar Library

The Paul Laurence Dunbar Library plays an important role in instruction and research activities at Wright State University. The library collections, among the largest in the Dayton metropolitan area, include over 590,000 bound volumes, over one million microforms, 350,000 government documents, 4,000 serial subscriptions, and more than 4,000 media or visual items. The library is open over 100 hours per week, longer during exam periods. In addition to the walk-in assistance available in the information/reference area during most hours, students may make appointments with reference librarians for in-depth assistance. Librarians also offer group instruction through a series of regularly offered workshops on topics ranging from basic research introduction to advanced searching of Web resources and specialized databases.

As a partial U.S. government documents depository, the library provides students and the general public with access to electronic and print documents, including over 30,000 geographical and topographical maps from all over the United States. The Libraries are also a designated Patent and Trademark Depository Library with collection materials accessible in the Dunbar Library.

Special Collections and Archives houses collections on aviation history, Wright State University history, and one of the most extensive collections of Wright brothers materials, including more than 4,000 original photographs made by the Wrights to document their achievements.

The Fordham Health Sciences Library

The Fordham Health Sciences Library serves as the primary library for students in the College of Nursing and Health and Schools of Medicine and Professional Psychology. The Fordham Library contains 115,000 bound volumes, 1,300 serial subscriptions, and more than 12,000 microforms. The collections also contain audio-visual programs related to the health sciences and equipment for viewing or listening to these programs. Videotaped lectures are available for selected courses in the College of Nursing and Health. Group study rooms are also available for nursing students. The library is open 98 hours a week.

A unique cooperative relationship among the area's hospital libraries and the Fordham Health Sciences Library promotes sharing and nonduplication of library materials as well as reciprocal library services for students and professionals in the health care fields. Seven of the hospital libraries participate in OhioLINK, over 100,000 volumes in these affiliated libraries complement the university collections.

Special Collections of the Fordham Library include the McFarland Collection in aerospace medicine and human factors engineering, the Aerospace Medical Association Archives, and the Wright State health sciences programs archives. The Thelma Fordham Pruett Rare Book Room houses rare American 18th- and 19th-century medical books.

Computer Resources

Computing and Telecommunications Services (CaTS) provides service and support for university telephones, campus networking, Internet access, and administrative and student computing resources. WSU students are encouraged to use these resources to enhance their learning experience. CaTS maintains computer labs (most open 24 hours) with computers networked to international resources, laser printers, and numerous software applications to complement students' classroom activities. The computers in these labs not only provide desktop applications, but also provide access to larger computer platforms, such as our UNIX system, the University Libraries databases, and other Internet resources. WSU has a strong commitment to providing accessibility to all students. In support of this commitment, a variety of adaptive technologies are available to provide computer access to students with physical disabilities.

All students should obtain a CaTS CAMPUS account. The CAMPUS account provides them with the account name and password necessary to access the Internet, e-mail, and other computing resources. Accounts also provide personal and class disk space on the network file servers. With their CAMPUS account and a Web browser, students can access the Internet from home using the CaTS modem banks. Student accounts remain active only as long as they are enrolled in classes. Account owners are responsible for any improper or illegal activities that occur on their account. These activities include, but are not limited to, harassment of others through electronic communication and the use of university resources for business purposes. Therefore, account owners should not share their passwords with anyone for any reason. Misuse of resources can result in the loss of account privileges and charges filed with the appropriate university offices. CAMPUS accounts can be picked up at the Help Desk in 025 Library Annex. The CaTS Help Desk is the single point of contact for university
computing questions, problems, and requests. Analysts are available to help seven days a week. Problems not resolved on the phone are logged into a tracking system and dispatched to the appropriate support groups for resolution. When contacting the Help Desk, if you receive a queue message indicating all analysts are busy, please stay online! A message is sent to the analysts letting them know you are waiting.
Student Services

In addition to classes and academic programs, Wright State has many services, facilities, and activities designed to help students enjoy all of the benefits of university life and develop interpersonal and leadership skills. The student affairs offices are staffed by professionals trained to help students appreciate other cultures, develop leadership and life skills, clarify values, model ethical behavior, and encourage healthy relationships and lifestyles. Most of these services are free, and students are invited to visit the offices any time.

Disability Services

Extending the opportunities of higher education to people with disabilities is a high priority at Wright State. The university’s Office of Disability Services offers programs to promote each student’s academic, personal, physical, and vocational growth so that people with documented disabilities can realize their full potential. The office also serves as a resource to faculty and staff throughout the university.

Academic Support

These services are designed to assist students with documented disabilities in meeting all academic requirements at the university. Eligible students may receive accommodations such as sign language interpreters, lab assistance, or reader/writer service. The Office of Disability Services can administer exams outside the normal classroom for students needing additional time and/or reading and writing assistance due to disability-related limitations.

Adaptive Technology and Adaptive Media

The Technology Center provides classroom materials in alternative formats that include audio-cassette tapes, computer disks, Braille, and image enhancements for eligible students. Consultations regarding computer adaptations and technology related accommodations are available through a certified Adaptive Technology Specialist. Classes for new users of adaptive technology are offered during the academic year.

Physical Support

Physical support services include personal assistance with daily hygiene requirements, parking for persons with mobility impairments, assistance in locating adapted housing off-campus, training in the activities of daily living to achieve a greater degree of independence, and the coordination of campus mobility orientation for students who have visual impairments.

Career and Vocational Support Services

These services assist students with documented disabilities in making career choices, and in the planning and development of their careers. Opportunities also exist for students to have various work site experiences. These methods allow students to make realistic decisions about future careers and ensure that the students are able to meet the demands of their chosen occupations.

Eligibility

Applicants requesting services available to students with disabilities should contact the Office of Disability Services prior to enrollment. A copy of professional documentation of disability from the original source(s) should be submitted prior to a pre-service interview. A pre-service interview is designed to assess disability-related needs and to plan services accordingly. Students are encouraged to contact the office well in advance (6-12 months) of their planned entry date. Services requested in an untimely manner cannot be guaranteed and may result in a significant delay. Most services are provided to students at no cost; however, fee-based services such as personal assistance and out-of-class reader/writer assistance can be billed directly to students or sponsoring agencies.

University Center for International Education

The University Center for International Education (UCIE) offers a variety of services to international students and Wright State students interested in international education experiences. The UCIE works with the campus community to ensure an international dimension within the university’s three major functions of teaching, research, and service.

The UCIE assists international students and scholars before and during their stay at Wright State. Besides processing admissions and offering orientation to international students, the UCIE also assists with off-campus housing and with immigration regulations, advising, and record keeping. Special educational, cultural, and sports programs for international students are also provided. International students can also participate in an off-campus host family program coordinated by the UCIE.

The UCIE provides opportunities for Wright State students to study, research, and teach abroad. Both American and international students can participate in these programs. Opportunities range from the three-week Ambassador Program, to a summer, semester, or year-long academic program in one of 25 countries around the world. The UCIE
maintains a resource center on study abroad opportunities and internship programs.

The UCIE also offers a wide variety of programming for all students, including social gatherings, cultural programs, foreign language conversation hours, international lectures, the annual International Friendship Affair, and many other opportunities to experience an international dimension at Wright State. The UCIE also assists faculty and staff in internationalizing the curriculum on campus and is an advocate for expanding global and comparative perspectives at Wright State.

### Career Services

Wright State offers students comprehensive career development and employment assistance. Services include help with acquiring on-campus and off-campus student employment, internships, cooperative education positions, and full-time positions upon graduation; career exploration through the LA 201-Effective Career Planning course; and individual appointments addressing career planning and job-search assistance. Career Services provides opportunities and resources for students to investigate major and career possibilities through career and job fairs, the Career Resource Center, and an interactive computer guidance system, SIGI Plus. To assist with the job search, The Wright Search, a web-based program for job postings and resume referral service, is used for linking students with employers who are seeking job candidates. The Wright Search is also used for scheduling on-campus interviews. Career Services professionals help students prepare for the job search through mock interviews, resume and cover letter reviews, and job search strategy building sessions. Visit Career Services Web page http://career.wright.edu for more information.

### Center for Psychological Services

The Center for Psychological Services (CPS) offers a variety of services to assist students in coping with personal or emotional concerns so as to enhance their academic performance and improve their general well-being. The Center offers a warm, relaxed, and confidential place to talk. Meeting with a therapist can be an important step in relieving stress as well as identifying strategies for addressing concerns. Therapy is offered in individual, couples, family and/or group modalities. In addition to therapy, we also provide psychological assessment, consultation, and psycho-educational seminars. Some examples of issues that may be addressed with our staff include: relationship problems, academic problems, family conflict, alcohol/drug use, sexual/physical abuse, panic/anxiety, depression, eating disorders, grief issues, and low self-esteem. All communications between a client and therapist are completely confidential and private. The Center for Psychological Services does not release information to University administrators or faculty, parents, family members, or outside agencies without the client’s written authorization. Exceptions to confidentiality include: when an individual is a risk for child or elder abuse, neglect, suicide, or homicide, or as otherwise required by Ohio Law. The Center is open Monday through Friday, 8:30 a.m. to 5 p.m., and is located on the second floor of the Frederick A. White Health Center.

### Veterans Affairs

Veterans who are eligible for education benefits through the Office of Veterans Affairs may contact Wright State’s veterans affairs office for assistance in applying for benefits. The office also helps dependents, spouses, and children of deceased or completely disabled veterans who qualify for education benefits. More information and forms are available online at http://www.wright.edu/admissions/va/

### Student Health Services

Students who need attention for illnesses, injuries, wellness checkups, and physicals may see the nurse practitioner at 118 Frederick A. White Health Center. The nurse practitioner has prescriptive authority and is available for primary health care needs of the students on campus. There is also a physician available, by appointment, four hours per week. Those students who purchase the student insurance and are sick or injured will have their care covered by insurance. Students who have other insurance will be asked to pay a fee at the time of their visit. Documentation will be given to the student so that the student can submit the charges to his or her own insurance company. Student Health Services does not process claims to any other insurance other than student insurance. Lab fees and injections must be paid for at the time of service. Visit our Web page at www.wright.edu/students/health/

### Student Legal Services

Student Legal Services is a private nonprofit corporation on campus that provides legal services to Wright State University students for a minimal quarterly fee. Services provided include assistance and representation in the areas of tenant/landlord issues, consumer and traffic cases, wills, simple dissolutions, name changes, and misdemeanor criminal and traffic cases. Student Legal Services may also provide limited advice in certain areas of the law such as personal injury, felony cases, estate and probate matters, and felonies. Students wishing
additional information may learn more about Student Legal Services at www.wright.edu/students/legal/index.html or by calling (937) 775-5857.

The Wright State University Police Department

The Wright State University Police Department, the official law enforcement agency for the university, provides police services 24 hours a day. Among the services provided are personal safety escorts; a crime prevention unit, which provides educational programs that focus on the topics of crime awareness and prevention; and an investigations unit. To increase safety within the campus community, emergency phones are located throughout the campus in buildings, parking lots, and other remote areas. These phones ring directly into the Wright State University Police Department Communications Center to ensure an immediate response to all potential emergency situations. The Wright State University Police Department Communications Center can be reached by dialing (937) 775-2111; or, in the event of an emergency, dial 911 from any campus phone.

Parking and Transportation

Shuttle Service

Campus shuttle service is provided to remote Lot 20 and the Nutter Center from approximately 7:30 a.m. to 10 p.m. on Monday through Thursday and 7:30 a.m. to 6 p.m. on Friday, during fall, winter, and spring quarters.

Permits

Commuter students may purchase a C parking permit to park in core campus lots. A remote parking permit is available for parking in Lot 20 and at the Nutter Center in Lots 7 and 8. Residence students are eligible to purchase a permit to park in the residence zones based on availability determined by Residence Services.

Public Regional Transit

The Miami Valley Regional Transit Authority (RTA) provides county-wide public transportation to residents of Montgomery County. Included as part of RTA’s service area is Wright State University’s main campus.

RTA Route number 13 provides year-round transportation between downtown Dayton and WSU, Monday through Saturday. Summer schedules may vary. For information, call 226-1144.

For complete information on campus parking permits, regulation, shuttle service and RTA schedules, contact Parking and Transportation, E138 Student Union, (937) 775-5690.

Bolinga Black Cultural Resources Center

Opened in 1971 as a tribute to Dr. Martin Luther King, Jr., the Bolinga Black Cultural Resources Center promotes cultural diversity through programs, activities, and forums that celebrate the African American experience. The center also provides academic and personal support to students. Individual counseling is available by scheduling appointments with Bolinga Center staff, and a number of student organizations such as Black Men on The Move, Black Women Striving Forward, and the McLin Scholars Association offer peer support.

Women’s Center

The Women’s Center serves as an information clearinghouse on women’s issues and services, fostering greater ties between women at Wright State and women in the community. The center promotes gender equity through educational programs and activities that honor the roles, contributions, and experiences of all women. The center also provides resource support for the Women’s Studies program and accommodates meetings, workshops, and other small group gatherings that address the concerns and interests of women on campus.

Asian/Hispanic/Native American Center

The Asian/Hispanic/Native American Center was created in October 1997 to support the academic, social, and cultural needs of Asian, Hispanic, and Native American students, faculty, and staff at the university. It also serves as an informational resource center regarding the Asian, Hispanic, Native American experience and creates an appreciation and understanding of the diverse Asian, Hispanic, and Native American cultures represented within the community. The center’s programs consist of guest speakers, workshops, film series, and celebrations of the Hispanic, Native American, and Asian Heritage Months.

Facilities

Student Union

The Wright State Student Union offers a place to play, relax, meet others, take care of academic needs, study, exercise, and grab a bite to eat, all in one stop. As the heart of university life, the Student Union is committed to providing a safe place that is friendly, student
centered, and promotes interaction among students, faculty, staff, alumni, and the community.

The professionally trained staff work closely with students to provide opportunities for personal growth and recreation through a number of cultural, educational, and social experiences ranging from guest lectures, bands, classical concerts, intracampus competitions, and more. In addition to offering innovative programs, this 308,000 square-foot facility houses a fitness center, arcade, gymnasium, meeting rooms, lounges, the University bookstore, an art gallery, a credit union, student service offices, box office, and the new Union Market.

The Union Market, Wright State University's newest dining facility, opened in fall of 2002 and provides upscale dining with six venues within the main servery including Salvador Deli, Herbs & Bisque, Chef's Kitchen, Formaggio's, On the Barbie, and Palettes. At the west entry to the Union Market, the Wright Cup coffee shop, the Hearth Lounge, and the Cyber Café provide popular hang-outs for students.

Campus Housing

Wright State offers residential communities housing over 3,000 students, with 11 residence halls for traditional-aged single students: 12 apartments for upperclass single students; and three apartments for nontraditional and graduate students. The C.H.O.I.C.E. (Celebrating Healthy Options in the College Environment) residence program is offered to students desiring a substance-free environment. University Honors students can live in the Honors Residence Hall. The Hamilton Living-Learning Center focuses on academic success for first-year students, providing tutoring, workshops, and study groups based on general education courses. Campus Housing provides an environment and programs that advance the educational goals of resident students and Wright State University.

Dining Services

Dining Services is contracted to Sodexho, USA. There are four (4) dining service locations on campus as well as a gourmet catering department. The Hangar is located in Allyn Hall and offers nationally recognized concepts such as Pizza Hut, Taco Bell, and Chick-Fil-A. Late night delivery service is also available from The Hangar. The Honors Dorm has a C-Store offering convenience items and a Sub shop. Café Wright is a coffee cart that operates on the Quad in spring and early fall and in Millet tunnel in the late fall and winter quarters. The Student Union houses Union Market and Wright Cup, Wright Cup is an upscale coffee venue offering fresh baked pastries, Grab-n-Go salads and sandwiches, smoothies, and Seattle's Best Coffees.

Union Market is made up of seven (7) platforms offering made to order foods with an international flair. Meals plans, Flex Dollars and Bonus Bucks are available for resident students, commuting students, faculty, and staff.

Co-Curricular Activities

Campus Recreation

The Wright State University Office of Campus Recreation is located in the Student Union, the heart of campus, and provides exceptional facilities and programs to promote the total health and well-being of each member of the university community. Professional staff work to meet the diverse needs of students, faculty, and university employees alike through activities and programs that promote healthy life-styles, positive relationships, productive leadership, fair play, and of course—fun.

Recreational facilities consist of a fitness center, gymnasium, swimming pool, seven squash and racquetball courts, a spinning room, billiards room, game arcade, and outdoor playing fields. Students also have access to a second gymnasium, weight room, indoor running track, and outdoor tennis courts located just down the street at the Ervin J. Nutter Center.

Campus Recreation offers something for everyone from basketball to wallyball, table tennis to bowling, and a variety of adapted recreation sports from billiards to quad rugby. Students are encouraged to participate in the more than 20 intramural leagues, 22 sports clubs, and 25 special events and tournaments offered annually. For the outdoor enthusiast, there are also opportunities for adventure tourism. Campus Recreation offers several outdoor activities such as camping trips, a ski trip, horseback riding, and in-line skating, as well as, an Outdoor Resource Center for outdoor equipment and information.

Students may take advantage of a wide offering of noncredit fitness instruction from traditional cardiovascular workouts such as step, dance, or water aerobics, spinning and kick boxing, to more nontraditional holistic offerings in meditation, and massage. In addition, training services are available to those interested in a personal exercise program.

All sports and recreation are inclusive. If you require assistance or need reasonable adaptations to participate fully in any program please contact the Office of Campus Recreation at (937) 775-5815.

For a complete listing of activities and programs, visit our Web site at www.wright.edu/students/rec/.
Sports

The university offers a broad program of both intercollegiate and intramural sports for men and women. Wright State's student-athletes compete in NCAA Division I and the Horizon League. Men's and women's sports opportunities include basketball, cross country, soccer, swimming, and tennis. In addition, the university offers baseball and golf for men, along with women's softball, volleyball, and indoor/outdoor track.

Music

In addition to offering private lessons and academic programs in music, the Department of Music gives all students a chance to participate in instrumental and choral ensembles. These groups provide diverse opportunities ranging from jazz and gospel to classical tradition. Several of the ensembles require no audition.

Cultural Activities

The University Theatre presents five mainstage productions and two dance concerts; three studio productions; numerous student-directed productions; and screenings of student films. The Department of Theatre Arts (theatre, dance, and motion pictures) biannually sponsors a Big Lens Festival of student films. The department brings in guest artists throughout the year. The Departments of Theatre Arts, Music, and Art and Art History annually present the ARTS GALA, an arts and entertainment event that raises need-based scholarship funds for qualified Miami Valley students in the fine and performing arts.

The Department of Music presents a variety of performances during the academic year including opera productions; band, orchestral, and choral concerts; chamber music recitals; and solo performances by students and faculty. Most performances are held in the Concert Hall, located in the Creative Arts Center. All are open to the public, and many are free of charge.

The University Art Galleries in the Creative Arts Center, run by the Department of Art and Art History, schedules six fine art exhibitions each year, which are free and open to the public. The Experimental Gallery, part of the same complex, houses frequently changing exhibitions of student art work.

The Union Activities Board (UAB), operated by students for students, schedules a wide variety of events including videos, guest speakers, comedy/novelty entertainment, concerts, recreational tournaments, cultural activities, and a highly regarded film series featuring foreign, cult classics, and avant garde films.

Organizations and Activities

Wright State has more than 100 registered student organizations including:

- Student Government
- Black Student Union
- Greek Council
- Union Activities Board
- Lambda Union
- National sororities and fraternities
- The Guardian, student newspaper
- WWSU, student radio station
- Nexus, literary magazine
- Honorary groups
- Department clubs
- Religious clubs
- Special interest groups
- Sports clubs
- Leadership programs
- Peer 2 Peer Wellness Education
- Disabled Student Union
- Student Honors Association
- Commuter Student Association

Academic Competitions

In addition to club and organizational activities, there are a variety of opportunities at Wright State for students to engage in academic competitions.

Raj Soin College of Business

The Raj Soin College of Business sends students to an annual management accounting case competition sponsored by the Institute of Management Accountants. Students on the WSU Ethics Bowl Team compete in the annual National Intercollegiate Ethics Bowl, a timed critical reasoning contest that poses complex moral scenarios on a wide range of controversial topics.

College of Engineering and Computer Science

The college Design Clinics offer student teams the opportunity to work on real-world, industry-sponsored projects or problems. Students compete in the Annual Student Simulation Competition held by the Institute of Industrial Engineers and the Rockwell Software Corporation. The WSU Raider Lightning Electric Race Car provides invaluable hands-on research and development experience for undergraduate students who work as part of the race team in real-world competitions. Through the Engineering Leadership Institute Seminars, selected outstanding students who have demonstrated academic achievement, leadership skills, and personal commitment are provided with the opportunity to have candid dialogues with the area's top technical and community leaders. The Department of Computer Science and Engineering supports active students chapters of the IEEE Computer Society and the Association for
Computing Machinery, which competes in the annual ACM Scholastic Programming Contest.

**College of Liberal Arts**

WSU delegations to the Annual National Collegiate Model United Nations Conference in New York City have the longest winning tradition of any United States university in the competition. Selected WSU students enroll in a political science seminar during winter quarter. WSU theatre students compete in the Technical Olympics of the National Conference of the United States Institute for Theatre Technology.

**College of Science and Mathematics**

Students compete as a team in the Mathematical Contest in Modeling, an international contest sponsored by the Consortium for Mathematics and its applications, in which students use mathematical modeling to provide solutions to real-world problems. Students can compete in the William Lowell Putnam Mathematical Competition (Putnam Exam), sponsored by the Mathematical Association of America.

**WSU–Lake Campus**

The Workplace Skills Assessment Program provides business students at the Lake Campus with the opportunity to demonstrate workplace skills learned through business education curriculums. Students may enter various business events and, after winning top-place state awards, can compete in the annual National Leadership Conference and Competition for Business Professionals of America.
ADMISSION, ADVISING, AND REGISTRATION
The process for becoming a new student at Wright State University involves several important steps. This section describes and explains these steps so that students can understand and follow the process and make informed decisions about services that might help in making decisions. A summary of services and offices discussed in this section is provided on page 47, along with phone numbers, to answer further questions.

Steps for Students New to Wright State:
1. Apply and complete the admission process
2. Inquire about financial aid, if needed
3. Take placement test
4. Attend orientation program
5. Meet with an advisor
6. Register for classes
7. Pay quarterly fees
8. Seek academic assistance

When students are admitted they are advised by a professional advisor or faculty member in the academic unit. Specific information about advising will be provided in the student’s letter of admission.

Admission

Ohio students who have graduated from a state chartered high school and completed the recommended college preparatory curriculum are eligible to apply for unconditional admission. Out-of-state students, however, must present evidence of above average ability to do college work. Students who do not meet the above criteria will be reviewed on an individual basis. Based upon the review of a completed admission file, the applicant may be offered unconditional or conditional admission to the university. Some applicants who do not meet the requirements may have their admission deferred pending satisfactory completion of developmental or remedial courses.

Admission to the university does not automatically guarantee admission to a major program of study; major programs of study have specific entrance requirements that must be met.

High School Preparation

Wright State has adopted a college preparatory curriculum policy. The university requires applicants to have a high school record that meets the recommendations of the Advisory Commission on Articulation between Secondary Education and Ohio Colleges. Students who do not meet the high school course requirements may be admitted to the university with conditions and will be required to remove deficiencies before they can graduate from Wright State University.

The following table summarizes the college preparatory course requirements and indicates how deficiencies may be removed.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Requirement</th>
<th>Removal of Deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>four units</td>
<td>Pass ENG 101*</td>
</tr>
<tr>
<td>Mathematics</td>
<td>three units (including Algebra I and II)†</td>
<td>Pass MTH 126 or MTH 127*</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>three units (including two units in history)</td>
<td>Complete the general education requirement in Western Civilization. A one-term course removes up to one unit of deficiency.</td>
</tr>
<tr>
<td>Science</td>
<td>three units</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>two units (in the same foreign or classical language through level II)†</td>
<td>Pass courses through the 103 level or demonstrate proficiency by examination.</td>
</tr>
<tr>
<td>Arts</td>
<td>one unit</td>
<td>Complete the general education requirement in Fine and Performing Arts.</td>
</tr>
</tbody>
</table>

* Initial enrollment in English and mathematics courses will be determined by placement testing. See the section on Placement Testing on page 64.
† Algebra I and Foreign Language I may be taken in eighth grade.

Degree-Seeking Students

Beginning Freshmen

Students beginning college with the intention of earning a degree must submit the following to be considered for admission:
1. Undergraduate application
2. $30 nonrefundable application fee
3. High school transcript (partial one at time of application, final one at end of senior year) or official GED scores.
4. Evidence all sections of the Ohio ninth grade proficiency test were passed, or qualifying exemption
5. College Preparatory Curriculum Completion Form
6. Official ACT or SAT scores.
Transfer Students

Students who have attempted one or more courses at a regionally accredited college or university are considered transfer students. To be considered for admission as a transfer student, students must submit the following:

1. Undergraduate application
2. $30 nonrefundable application fee
3. Official transcript from each college previously attended
4. High school transcript (required of the following students)
   - High school graduates of 1986 or before who are transferring with less than 12 quarter (nine semester) hours
   - High school graduates of 1987 or after who are transferring with less than 45 quarter (30 semester) hours
5. College Preparatory Curriculum Completion Form (required of the following students)
   - High school graduates of 1999 or after who are transferring with less than 45 quarter (30 semester) hours. 1987 or after graduate with less than 45 hours must fulfill any high school deficiencies even though they do not need to submit the college prep form.

All transfer students with at least a “C” average are eligible for admission to the university; admission to most colleges and schools requires a higher GPA. Students who have been out of college for more than five years with less than a 2.0 GPA do not have to petition to transfer to Wright State. However, those students who have attended college within the past five years with less than a 2.0 GPA must petition for admission. The petition forms are available in the Office of Undergraduate Admissions and must be submitted along with the other necessary applications materials outlined above. Students who have been dismissed/suspended from another institution will not be considered for admission to Wright State for one calendar year.

Students who have been granted a “fresh start” at another institution must have earned an additional minimum 12 hours at the same institution before Wright State will recognize the recalculated GPA for admission purposes.

Transfer Credit Regulations

1. Students’ credits must have been earned at an institution that is regionally accredited. Transfer appeals should be submitted in writing to the Office of the Registrar.
2. Students must have earned a grade of “C” or higher (according to the definition of grades currently used at Wright State). Grades of “pass” and “credit” are considered for transfer credit. In compliance with the Ohio Transfer and Articulation Policy, grades of “D” will be posted for students who have earned an Associate of Arts or Associate of Science degree from an Ohio public institution.
3. Any credit earned through correspondence, off-campus or distance learning is subject to the same regulations as other transfer credit.
4. Students who have completed three-fourths or more of the Wright State quarterly credit hour requirement for a course or sequence may receive credit for that course or sequence. For example, two three-credit hour courses in English composition may be considered the equivalent of ENG 101 and 102 (8 credit hours).
5. Wright State academic advisors will determine how students’ transfer credits are to be used toward the requirements for their major. If there are exceptions to the application of transfer credit, the dean of the major college or school involved will make the decision.
6. The Office of Undergraduate Admissions will notify students of their admission to the University College’s office of Adult and Transfer Services, or the appropriate college.
7. General education requirements for most transfer students will be determined by a course-by-course evaluation.
8. Students who have already received a baccalaureate degree from an accredited institution (see Transfer Credit Regulation number 1) and wish to pursue a second baccalaureate degree will automatically receive 138 quarter credit hours. They will be ranked as seniors. An advisor will determine how many credits these students will have to complete to receive their second degree.
9. All religion courses taught by a religion department in any state college or university will be considered for transfer credit. These courses are subject to other applicable Transfer Credit Regulations. Religion courses taught by all other departments before transfer credit is granted.
10. Transfer students with a minimum GPA of 3.4 or higher earned at Wright State may be eligible to graduate with Latin honors (summa cum laude, magna cum laude, or cum laude). For the purpose of determining Latin honors, the student’s GPA at Wright State will be recalculated to include all transfer grades; however, this recalculated GPA will not be reflected on the student’s academic record. The official transcript will include only the GPA for courses completed at Wright State. The recalculated GPA may result in the student not earning Latin honors at graduation.
Transfer to an Ohio Public College or University

The Ohio Board of Regents, following the directive of the Ohio General Assembly, developed a statewide policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements. Since independent colleges and universities in Ohio may or may not be participating in the transfer policy, students interested in transferring to an independent institution are encouraged to check with the college or university of their choice regarding transfer agreements.

The Ohio Board of Regents' Transfer and Articulation Policy established the Transfer Module, which is a subset or entire set of a college or university's general education program. The Transfer Module consists of 54 to 60 quarter hours (or 36 to 40 semester hours) of courses in the following areas: English, mathematics, arts and humanities, social and behavioral sciences, natural and physical sciences, and interdisciplinary study.

The Transfer Module completed at one college or university will automatically meet the requirements of the Transfer Module at another college or university. Students may be required, however, to meet additional general education requirements at the institution to which they transfer.

Since many degree programs require specific courses that may be taken as a part of the general education or Transfer Module program at an institution, students are encouraged to meet early in their academic career with an academic advisor at the institution to which they plan to transfer. For example, students who will be majoring in any of the majors in the Raj Soin College of Business and Administration at Wright State University should take business general education courses and any specific program requirements that can be completed before transfer.

Conditions for Transfer Admission

Students meeting the requirements of the Transfer Module are subject to the following conditions:

1. The policy encourages receiving institutions to give preferential consideration for admission to students who complete the Transfer Module and either the Associate of Arts or Associate of Science degrees. These students will be able to transfer all college-level courses in which they received a grade of “C” or better. Students must have an overall GPA of 2.0 to be given credit for the Transfer Module.

2. The policy also encourages receiving institutions to give preferential consideration for admission to students who complete the Transfer Module with a grade of “C” or better in each course and 90 quarter hours or 60 semester hours. Students must have an overall GPA of 2.0 to be given credit for the Transfer Module, and only courses in which a “C” or better has been earned will transfer.

3. The policy encourages receiving institutions to admit on a nonpreferential consideration basis students who complete the Transfer Module with a grade of “C” or better in each course and less than 90 quarter hours or 60 semester hours. These students will be able to transfer all courses in which they received a grade of “C” or better.

Admission to a given institution, however, does not guarantee that a transfer student will be automatically admitted to all majors, minors, or fields of concentration at that institution. Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as all other students. Furthermore, transfer students shall be accorded the same class standing and other privileges as all other students on the basis of the number of credits earned. All residency requirements must be successfully completed at the receiving institution prior to the granting of a degree.

Appeals Process

A student disagreeing with the application of transfer credit by the receiving institution shall be informed of the right to appeal the decision and of the process for filing the appeal. Each institution shall make available to students the appeal process for that specific college or university.

If a transfer student’s appeal is denied by the institution after all appeal levels within the institution have been exhausted, the institution shall advise the student in writing of the availability and process of appeal to the state-level Articulation and Transfer Appeals Review Committee.

The Appeals Review Committee shall review and recommend to institutions the resolution of individual cases of appeal from transfer students who have exhausted all local appeal mechanisms concerning applicability of transfer credits at receiving institutions.

Responsibilities of Students

In order to facilitate transfer with maximum applicability of transfer credit, prospective transfer students should plan a course of study that will meet the requirements of a degree program at the receiving institution. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are language requirements or any special course requirements that can be met during the freshman or sophomore year.

This will enable students to plan and pursue a course of study that will articulate with the receiving institution’s major. Students are encouraged to seek further information regarding transfer from their advisor and from the college or university to which they plan to transfer.

with a grade of “C” or better in each course and
90 quarter hours or 60 semester hours. Students
must have an overall GPA of 2.0 to be given
credit for the Transfer Module, and only courses
in which a “C” or better has been earned will
transfer.
Wright State University’s Transfer Module

Wright State’s Transfer Module consists of 56 credit hours of introductory courses in English, mathematics, arts and humanities, social and behavioral sciences, and natural and physical sciences. The general education requirements for a bachelor’s degree require 56 credit hours. Since certain majors at Wright State require approved course or sequence substitutions to the courses listed below, students should consult the specific degree requirements listed in this catalog.

<table>
<thead>
<tr>
<th>Transfer Module</th>
<th>General Education Requirements Applied to TM</th>
<th>Additional General Education Requirements (12–14 sem, 18–24 qtr)</th>
<th>Additional General Requirements Beyond the TM for Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Minimum 8 hours</td>
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<tr>
<td></td>
<td>Minimum 5 qtr/3 sem</td>
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<tr>
<td></td>
<td>ENG 101</td>
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<td></td>
<td>ENG 102</td>
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<tr>
<td>Mathematics</td>
<td>Minimum 4+ hours</td>
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<td>Minimum 3 qtr/3 sem</td>
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<td></td>
<td>MTH 145</td>
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<td></td>
<td>or approved substitute</td>
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<tr>
<td>Arts/Humanities</td>
<td>Minimum 12–20 hours</td>
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<td></td>
<td>Minimum 9 qtr/6 sem</td>
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<td></td>
<td>Classics 150</td>
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<td></td>
<td>Comparative Studies</td>
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<td>College Component</td>
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<td>Fine Arts</td>
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<td>Great Books</td>
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<tr>
<td></td>
<td>History 101, 102, 103</td>
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<td></td>
<td>Regional Studies</td>
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<tr>
<td>Social Science</td>
<td>Minimum 12–20 hours</td>
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<td></td>
<td>Minimum 9 qtr/6 sem</td>
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<td></td>
<td>Economics 200, 204, 205, 290</td>
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<td>Political Science 200</td>
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<td>Psychology 105</td>
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<tr>
<td></td>
<td>Regional Studies</td>
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<tr>
<td></td>
<td>Sociology 200, 205</td>
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<td></td>
<td>Women’s Studies 200</td>
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<tr>
<td>Natural Science</td>
<td>Minimum 12–16 hours</td>
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<td></td>
<td>Minimum 9 qtr/6 sem</td>
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<tr>
<td></td>
<td>Biology; Chemistry; Geology; Physics</td>
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<td></td>
<td>College Component</td>
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<tr>
<td>Interdisciplinary</td>
<td>Maximum 4 hours</td>
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<td></td>
<td>Minimum 9 qtr/6 sem</td>
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<tr>
<td></td>
<td>College Component</td>
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<tr>
<td>Sub Total</td>
<td>Minimum 56</td>
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<td></td>
<td>Minimum 36 qtr/24 sem</td>
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</tbody>
</table>

1 Some Comparative Studies count in Arts/Humanities and others in Social/Behavioral Sciences.
2 All RST courses may count as either Arts/Humanities or Social/Behavioral Sciences; RSE courses must count for Social Sciences.
3 Depending on the course selected or required, the College Component course will count in Arts/Humanities, Social/Behavioral Sciences, Natural Sciences, Interdisciplinary or will be counted outside of the Transfer Module minimums.
**International Students**

Wright State welcomes applications from qualified international applicants. Over 600 students on F-1 and J-1 student visas currently attend the university. Application materials are available at the University Center for International Education. Applications for admission must be completed four months before the quarter in which applicants wish to begin studies at Wright State.

International applicants are expected to meet the following criteria for admission:
1. Undergraduate applicants must have an educational background that is equivalent to a high school diploma from the state of Ohio.
2. All international applicants must demonstrate proficiency in English. For applicants whose native language is not English, the Test of English as a Foreign Language (TOEFL) is required: a minimum score of 500/173 is required for admission. The College of Engineering and Computer Science requires a score of 530/197. Nonnative English-speaking students will also be tested in English upon arrival at Wright State and are required to enroll in appropriate English courses if the testing so indicates.
3. Since there is no financial assistance available for undergraduate international students, the university must be assured that all international applicants have adequate financial resources to attend Wright State.
4. Transfer students must also present evidence of above-average ability to do college work. All first-year international students are required to take the reading, writing, and mathematics placement examinations before enrolling for their first quarter of classes. Students should contact the University College for further placement testing.

**Returning Students**

Students who have not attended Wright State for five years (20 consecutive quarters) may wish to take advantage of the Fresh Start Rule. This rule may allow students to have their earlier GPA recalculated. Interested students should contact the Office of Undergraduate Admissions for more information.

**Other Admission and Enrollment Categories**

**Nondegree Undergraduate Students**

Students who wish to take courses at Wright State but who do not intend to work toward a degree at this time can register as nondegree students. Students may take as many courses as they like, as long as they meet the requirements for each course. To be eligible to register as nondegree students, they must have graduated from an accredited high school or passed a high school equivalency test (GED).

To apply, students need only fill out a simple application/registration form and pay a $10 one-time registration fee. Later, if they decide to enter a degree program, they can file their credentials and pay an additional $20 application fee. Non-degree work normally can be applied toward a degree program.

Nondegree students may receive academic advising from the Academic Advising Center and may participate in any of the services of the division, including tutoring and developmental education courses.

**Teacher Certification/Licensure Candidates**

College graduates who wish to become licensed teachers must apply for admission, file all the necessary credentials, pay the application fee, and complete the college admissions process as described on page 85. Undergraduate students and students who receive degrees from other colleges within the university may also obtain teaching licenses upon completion of all the requirements of the College of Education and Human Services.

**High School Students**

High school students may, in some circumstances, take courses at Wright State while still enrolled in high school. For specific information about the program, contact the Office of Undergraduate Admissions.
Financial Aid

The Office of Financial Aid makes every effort to help students who would be unable to attend school without receiving some form of financial aid. No student interested in attending Wright State University should fail to apply because of financial limitations. If necessary, students should meet with a financial aid staff member to discuss any questions or concerns they may have regarding their financial aid package.

Financial aid, with the exception of four-year scholarships, is granted on a three-quarter basis. To also help determine summer and/or academic year the Office of Financial Aid requires completion of the registration questions on the Free Application for Federal Student Aid (FAFSA). The registration questions will require you to indicate the quarter(s) you plan to attend, and if you will register for full, three-fourths, or part-time. Students must apply for financial aid annually. All students who are interested in applying for federal and state based financial aid are required to submit the Free Application for Federal Student Aid (FAFSA). The FAFSA can also be filed online at www.fafsa.ed.gov/

It is encouraged that students complete the FAFSA online with their PIN and valid e-mail address for faster processing. Computers are available in the Office of Financial Aid, on a first-come basis, for students or parents, to file the FAFSA online during office hours (8:30 a.m. to 4 p.m.) Monday–Friday, excluding holidays.

Application deadlines for the following programs vary, so it is essential that individuals contact the Office of Financial Aid, or our Web site at http://www.wright.edu/financialaid for specific dates and additional details.

Scholarships

Wright State University's undergraduate scholarship program is committed to rewarding academic excellence by recognizing students who have demonstrated excellent academic ability, involvement in extracurricular activities, and creative talent. First-year student undergraduate scholarships are awarded in three categories: academic performance, competitive, and talent. Scholarships range from $300 to $12,000 a year, and most are renewable. For scholarship details, visit Wright State's Financial Aid Web site at http://www.wright.edu/financialaid. Click on Types of Aid for scholarship links.

First-Year Student Academic Performance Scholarships

Academic Performance Scholarships are awarded to National Merit finalists, semifinalists, and commended scholars; National Achievement finalists, semifinalists, and commended scholars; valedictorians and salutatorians; and scholarships based on ACT/SAT scores, class rank, and high school GPA. The Wright State University Admissions Application is used to apply. Deadline date is February 15.

First-Year Student Competitive Honors Scholarships

Competitive Honors Scholarships are awarded through a scholarship application process. Students who apply are selected based on their ACT/SAT scores, class rank, high school GPA, PSEO transcript if applicable, letters of recommendation, essay, extracurricular activities, and often times, an interview. Student must apply for admission to Wright State and complete the scholarship application requirements by the deadline date of January 15.

Talent Scholarships

Talent Scholarships are awarded through an application and audition process to students who demonstrate outstanding talent in theatre arts and music. For specific scholarship information, please contact the appropriate department.

Transfer Students

Transfer Students can apply for scholarships by completing the Transfer Student Scholarship application. Transfer Competitive Scholarships have a February 15 deadline, while Transfer Associate Degree Scholarships have a June 15 deadline. First-year student and Transfer Student Scholarship applications are available through the Office of Admissions, the Financial Aid Web site, or through the Office of Financial Aid.

Scholarships for Continuing Undergraduate Students

Scholarships are awarded on a competitive basis to academically talented students who complete the Wright State Academic Scholarship Application for Continuing Undergraduate Students. These students must have earned hours and a “competitive” cumulative GPA, both earned at Wright State. A scholarship committee comprised of faculty members from their college and/or department selects recipients. Scholarships range from $300 to $11,000 and are usually one-year awards. Applications are available in January each year.
through Wright State's Financial Aid Web site or through the Office of Financial Aid. The deadline to apply is March 1. If a scholarship is need-based, the student must file the Free Application for Federal Student Aid (FAFSA) by February 15.

Athletic Scholarships

Students who wish to participate in athletics at Wright State, and are interested in scholarships from their chosen sport, are to contact the Athletics office at Wright State in the sport that they are considering.

Wright State University Scholarship Listing

The university provides financial support for scholarships as well as the Wright State University Foundation. Funding through the foundation is available through the generosity of many individuals, organizations, foundations, and memorial funds. The following scholarships are available to students who meet specific criteria. Detailed information can be obtained through the Office of Financial Aid.

Raj Soin College of Business

Accountancy Alumni Scholarship
Bank One Grant Program
Battelle and Battelle Scholarship
James W. Blain Scholarship
Dr. Sonia Brecha Memorial Scholarship
Brower Insurance Agency Endowed Scholarship
Roger Brucker Scholarship for Marketing Enthusiasm
Business Alumni Scholarship
Management Science/Information Systems Scholarship
Dayton EC Forum Scholarship
Deloitte & Touche Accounting Excellence Scholarship
Thomas Dovel Memorial Scholarship
Daniel W. Duval-Robbins & Myers Scholarship
Economics Scholarship
Ernst & Young Scholarship
Finance Club Scholarship
Finance Scholarship
William L. Gans Scholarship
Gillispie Family Scholarship
David S. Gutridge Business Scholarship
Russell Hereth Scholarship
International Business Major Scholarship Fund
William J. Kane Scholarship Fund
Daniel J. Kaufman Memorial Scholarship
Jerry L. Kirby Fifth Third Bank Scholarship
Thomas Kreusch Family Endowed Scholarship
Rishi Kumar Endowed Scholarship
Howard L. Magner Accountancy Scholarship
Management Department Scholarship
Marketing Scholarship
Steven Mason Business Scholarship
Naum Scholarship
Donald F. Pabst Scholarship
Jacob B. Paperman Scholarship
Denny and Sharon Phillips Scholarship Fund
Raj Soin College of Business Scholarship
Margaret "Peggy" Rike Scholarship Fund
Robbins & Myers Endowed Scholarship
Rust and Cheri Gray Scholarship
William J. Schoenfeld Scholarship
Scitex Endowed Scholarship
Jo Ann Self Memorial Scholarship
Shumsky Enterprises Scholarship
Barbara Kirk Stickney Scholarship
Student Audit Program Award
Sharon Sutton Endowed Scholarship
Robert and Veronica Sweeney Family Scholarship for Finance/Financial Services
Their Financial Group Award
Thomas D. Weeda Memorial Scholarship
Yes Scholarship

College of Education and Human Services

David M. Berry Memorial Endowed Scholarship
Early Childhood Education Scholarship
Education and Human Services Scholarship
Betty K. Hathaway Scholarship
Catherine Maurer Haverstock Scholarship
Health, Physical Education, and Recreation Scholarship
Ellen Scherer Memorial Education Scholarship
Special Education Scholarship
Jerry Sturm Memorial Scholarship
Teacher Education Scholarship
WOEA/WSU Teacher Scholarship

College of Engineering and Computer Science

Adams-Robinson Construction Company Endowed Scholarship (Wright STEPP)
Amcast Industrial Engineering Scholarship
Robert Appenzeller Engineering Scholarship
Clark E. Beck Scholarship (Wright STEPP)
Becker Electric Company Scholarship
Biomedical Engineering Scholarship
John H. Birden and Kenneth C. Jordan EG&G Mound Scholarship
James and Sharon Brandeberry Endowed Scholarship
Lester and Delilah Buechler Scholarship
Anthony J. Cacioppo, Ph.D. Memorial Scholarship
Computer Engineering Scholarship
Computer Science Scholarship
Daimler Chrysler Scholarship
Dayton-Wright Chapter Armed Forces Communication and Electronics Association Scholarship
Virginia Arlene DiFlora Memorial Scholarship
Daniel W. Duval—Robbins & Myers Scholarship
Harold E. "Doc" Edgerton EG&G Mound Memorial Scholarship
Admission, Financial Aid, and Registration 43

Electrical Manufacturing and Coil Winding Association Scholarship
Electrical Systems Engineering Scholarship
Engineering and Computer Science Scholarship
Gasper Corporation Endowed Scholarship
Roger Glaser Ph.D. Research Scholarship—Engineering
William Randolph Hearst Endowed Scholarship (Wright STEPP)
Human Factors Scholarship
Cary Michael Jokela Memorial Scholarship
Dan Graves Association of Old Crows Kittyhawk Chapter Scholarship
Lockheed Martin Scholarship
Macaulay-Brown Co-Op Scholarship
Material Science and Engineering Scholarship
Mechanical Systems Engineering Scholarship
Modern Industrial Plastics Endowed Scholarship
Harry W. Moore Memorial Scholarship
Mosier Scholarship
Heinz P. Murka Scholarship
National Aerospace and Electronic Conference Scholarship
Ervin J. Nutter Scholarship
Rai Pujara Memorial Scholarship
Robbins & Myers Endowed Scholarship
SAE/WSU Engineering Scholarship
Scitex Endowed Scholarship—Engineering and Computer Science
Standard Register Scholarship (Wright STEPP)
Supply One Corporation Scholarship
University Wright STEPP Scholarship
William H. Wahlert Memorial Scholarship
Isaac Weiss Memorial Scholarship
Charles E. and Dorothy E. Wittlinger Dayton View Optimist Club Scholarship

College of Liberal Arts
Alumni Association Scholarship Fund for Theatre Arts
Art Department Scholarship
Arts Gala—Art Scholarship
Arts Gala—Music Scholarship
Arts Gala—Theatre Arts Scholarship
Augsburger/Estevez Scholarship
Bassett-Woodwind Scholarship
Richard Blazer Endowed Scholarship
Brower Insurance Agency Endowed Scholarship
Classics Scholarship
Clear Creek Farm Scholarship
Carol H. Cline Endowed Scholarship/Award
Communications—Alumni Scholarship
Community Outreach Partnership Center Individual Development Scholarship
Cheryl Craigie and John Britt Endowed Scholarship
Donald K. David Scholarship
Dayton Ballet Scholarship
Dunbar Poetry Scholarship
Harry G. and Martha B. Ebeling Scholarship
Ellen Murray Scholarship Fund
ELM Art Scholarship
English Scholarship
Harley Flack Memorial Piano Scholarship
Geography Endowed Scholarship
Goldfarb Music Scholarship
Clark Haines Music Award
Val P. Hattemer Scholarship for Music Students
History Scholarship
Hong Kong Exchange Scholarship
Ronald F. Hough Scholarship
Jose Jimenez Prize for Best Student in Latin History
Paul Katz Chamber Orchestra Scholarship
William and Cynthia King Scholarship Fund
Gerald and Rita Kurdila Scholarship
Judy Wyatt Lansaw Scholarship
Liberal Arts Scholarship
Gary M. McDaniel Memorial Scholarship
J. Ashley and Sarah McGinley Scholarship
Mead Urban Affairs Scholarship
Melzoni Memorial Foundation Scholarship
Modern Languages Scholarship
Music Scholarships
Park Hills Viking Guard Scholarship
David G. Poff Scholarship
Political Science Scholarship
President’s Chamber Orchestra Scholarship
President’s Scholarship Endowment for Musical Theatre and Dance
Religion Scholarship
Rising Star Scholarship
Jon Dance Rodriguez Scholarship
Irene Romanowski Music Scholarship
Beatrice and Mitchell Singer Scholarship
Social Work Scholarship
Sociology/Anthropology Scholarship
Robert M. Stofer Music Award
Sucher Chamber Orchestra Scholarship
Theatre Arts Talent Scholarship
Bernice A. Tjossem Theatre Arts Scholarship
Audley and Barbara Wasson Music Scholarship
Ellen Wiedemann-Berger Memorial Award
WTUE Sandy Patton Endowed Scholarship

College of Science and Mathematics
American Mathematics Contest 12 Scholarship
Dr. Merrill L. Andrew Memorial Scholarship
Howard E. Bales Memorial Scholarship
Biological Sciences Scholarship
Michael A. Bruck Memorial Scholarship
Cargill Chemistry Scholarship
Chemistry Scholarship
Robert G. Chollar Scholarship
Compunet Clinical Laboratories Scholarship
Harry Davis Memorial Scholarship
Dr. Jean T. and Phyllis Nussy Dubois Memorial Scholarship
Engineering-Science Foundation of Dayton Scholarship

College of Science and Mathematics
American Mathematics Contest 12 Scholarship
Dr. Merrill L. Andrew Memorial Scholarship
Howard E. Bales Memorial Scholarship
Biological Sciences Scholarship
Michael A. Bruck Memorial Scholarship
Cargill Chemistry Scholarship
Chemistry Scholarship
Robert G. Chollar Scholarship
Compunet Clinical Laboratories Scholarship
Harry Davis Memorial Scholarship
Dr. Jean T. and Phyllis Nussy Dubois Memorial Scholarship
Engineering-Science Foundation of Dayton Scholarship
Geological Sciences Scholarship  
Geophysics Scholarship  
Dan Graves Association of Old Crows Kittyhawk Chapter Scholarship  
Edgar Hardy Ph.D. Chemistry Scholarship  
David J. Karl Memorial Scholarship  
Nicholas Koussa Memorial Scholarship in Medical Technology  
Ervin B. Lacy II Memorial Scholarship  
Math Scholarship  
Ohio Wildlife Scholarship  
Richard Page Memorial Scholarship  
Physics Scholarship  
Physiology/Biophysics Scholarship  
Psychology Scholarship  
John D. and Helen V. Rossmiller Scholarship  
Science Apprenticeship Scholarship  
Science and Math Scholarship  
State Science Day Scholarship  

College of Nursing and Health  
The Virginia Hamilton Adoff Memorial Nursing Scholarship  
The Elta Smith Biles Memorial Scholarship Fund  
Cameos of Caring Scholarship  
College of Nursing Scholarship  
Dayton Association of Orthopedic Nurses Scholarship  
Mildred Lewis Patterson and Mildred Patterson Miller Scholarship  
Montgomery County Medical Society Alliance Scholarships  
The Lois F. Renner Lucero Memorial Scholarship  
Jane Swart Memorial Scholarship  
Sweeney Family Scholarship  
Bernice A. Tjossem Memorial Scholarship  
William Brent Turner Scholarship  
Undergraduate Nursing Student Scholarship—Annual Essay Competition  
The Sondra K. Zinser Nursing Scholarship  

Miscellaneous Scholarships  
Academic Excellence Scholarship—WOEF/WSU—Lake Campus  
Adult Incentive Scholarship  
Air Force ROTC Scholarship  
Alumni Association Legacy Scholarship  
Arby’s/Lee’s Famous Recipe Annual Scholarship  
Army ROTC Scholarship  
Athletic Scholarship  
Edward G. Austin, D.D.S. Beavercreek 2000 Scholarship  
Baldwin & Whitney Insurance Agency Scholarship  
BAM Endowed Scholarship  
Barnes & Noble College Bookstore Scholarship  
Justin and Nicholas Beason Scholarship  
Damon Bell Memorial Leadership Scholarship  
Beta Phi Omega Scholarship  
Bolinga Cultural Resources Center Scholarship  

Buckeye Trails Girl Scout Scholarship  
Campus Recreation for Individuals with Disabilities Scholarship  
Centerville Women’s Civic Club Scholarship  
Classified Staff Advisory Council Staff Scholarship  
Classified Staff Advisory Council Student Scholarship  
Lorna G. Dawes Student Union Achievement Award  
Dayton Power & Light Company Scholarship  
Distinguished Senior Honors Awards  
Domino’s Pizza Scholarship  
Paul Laurence Dunbar Scholarship  
M. Emrick Scholarship  
Dorothy Ward Hayes Scholarship  
James B. Heider, Jr./Timothy A. Best Memorial Scholarship  
Heritage Scholarship—Honors  
Honors Competitive Scholarship  
Horizons in Medicine Scholarship  
Hungarian Ancestry Scholarship  
Harry P. Jeffrey Scholarship  
Johnson & Gordon Inc. Scholarship  
Allen Jones Scholarship  
Dwight Kemp Memorial Scholarship  
KeyBank Scholarship  
Martin Luther King Jr. Scholarship  
Elenore A. Koch International Award  
Lake Campus Transfer Scholarships  
Bud Langen Memorial Fund  
Library Student Award  
Captain Kevin M. Maguire Memorial Scholarship  
C. J. McLin Scholarship  
Male Mentoring Scholarship  
Miami Valley Classic Book Club Scholarship—Honors  
Minority Disability Scholarship  
Montgomery County Medical Society Scholarship  
National Residence Hall Honorary Scholarships  
Gregg Nischwitz Scholarship  
Robert Oelman Scholarship  
Office of Disability Services Scholarship  
Ohio Lions Foundation Helen Keller Scholarship  
Out-of-State Scholarships  
Parents Association Scholarship  
2nd Lieutenant Eric M. Payton Scholarship  
Phi Kappa Phi Scholarship  
Phi Theta Kappa Scholarship  
Presidential Scholarship  
President’s Scholarship Endowment for Students  
Professional Golfer’s Association Scholarship
Raider Scholar
Rike Family Foundation Scholarship - Transfer
Students with Associate Degree
Frank L. Salsburg Memorial Honors Scholarship
Truman O. Schardt Scholarship
Oma K. Sells Honors Scholarship
Daisy A. Shellhouse Scholarship
Shepard Family Scholarship Fund
Brian Skelton Scholarship
Michael Small Memorial Scholarship
Student Union Scholarship
Wayne E. Tjossem Scholarship
Transfer Competitive Scholarships
University Trustees Scholarship
Valedictorian/Salutatorian Scholarship
George Vernooy Independence Award
Volkspforting Scholarship
Millie Waddell Scholarship
Western Ohio Educational Foundation Scholarship—
Lake Campus
Frederick A. White Endowed Scholarship
Frederick A. White Prize
Robert H. Whited Scholarship (Dayton Exchange Club)
Woods Scholarship
Wright State Organization for Women Scholarship
(WOW)
Wright State Scholar
WSU Commended Scholarship
WSU National Scholarship
WSU Retirees Association Scholarship
WSU Semifinalist Scholarship
Peggy L. Wynkoop Scholarship

Grants

Grants are forms of gift aid that are not repaid. They are available to undergraduate students and are based on financial need. The Ohio Instructional Grant is available to students who are residents of the state of Ohio and attend college full time. Students who are eligible for the Ohio Instructional Grant, but will be attending part time, will receive their eligibility through the Ohio Part-time Student Instructional Grant program. Students must apply through the Free Application for Federal Student Aid (FAFSA).

To be considered for the Pell Grant and the Supplemental Educational Opportunity Grant, students must complete and submit the Free Application for Federal Student Aid (FAFSA).

Priority Consideration

To receive priority consideration for the Federal Supplemental Grant, Perkins Loan, Nursing Loan, and/or Work-Study, students must demonstrate exceptional financial need on the basis of the Free Application for Federal Student Aid (FAFSA). The FAFSA is submitted to the Federal Processing Center on or before February 15 with Wright State listed to receive the processed data.

Loans

Loans, which are repaid starting six months or nine months after graduation or termination of half-time (six hours) studies, are available to both undergraduate and graduate students. For information on applying for the low interest (5 percent) Perkins Loan, refer to the paragraph on priority consideration.

Students apply for the Subsidized and Unsubsidized Stafford Student Loan (variable interest not exceeding 8.25 percent) by completing the Free Application for Federal Student Aid (FAFSA).

Students who are officially admitted to the Wright State-Miami Valley College of Nursing and Health are eligible to apply for the Federal Nursing Student Loan. The Federal Nursing Student Loan has a five percent interest rate, and repayment begins nine months after graduation or termination of half-time (six hours) nursing studies. For information on applying for the Federal Nursing Student Loan, refer to the paragraph on priority consideration.

Student Employment

Student employment is available to students who wish to work to help finance their education or just to earn extra spending money. Students can obtain information about job opportunities through Career Services. For on-campus jobs, students may be employed through the Federal Work-Study Program or the Regular employment program. For information on applying for Federal Work-Study, refer to the paragraph on priority consideration under Financial Aid. There are no financial eligibility requirements for students who wish to work under the Regular employment program. Student Employment has a job board for posting part-time off-campus positions and opportunities in community service, as well as on line postings at http://careers.wright.edu

Veterans’ Benefits

Active duty personnel and Vietnam-era veterans are eligible for the new G.I. Bill if they served without a break in service after October 19, 1984, through June 30, 1985. Only veterans separating after June 30, 1988, are eligible. Eligibility terminates 10 years from date of separation from active duty.

The All-Volunteer Force Educational Assistance Program (New G.I. Bill) can be used by a veteran who entered on active duty at any time after June 30, 1985, and paid into the program.
Educational assistance for members of the Selected Reserve (Chapter 1606) is also a part of the G.I. Bill. They are entitled to education benefits with a six year contract and by actively participating in the selected reserve program.

Applications are available from the Veterans Affairs office at Wright State University or from any Department of Veteran Affairs office. Educational opportunities are available for children and surviving spouses of veterans whose deaths or permanent total disabilities were service-connected. Spouses and children of servicemen and women declared missing in action or prisoners of war are also eligible.

Tutorial assistance is available to students who are receiving education benefits. Assistance is given to vocational rehabilitation students according to need, while benefits are limited to a maximum of $100 per month for other students.

More information and forms are available online at http://www.wright.edu/admissions/vad/Registration

After new students have met with their advisor, they are ready to register for classes. Registration information and dates are announced in the quarterly class schedule and online at http://www.wright.edu/registrar/. Once students have advisor permission (if required) they may register online through Raider Online Express (ROX) by telephone using Raider Express or in person at the Office of the Registrar.

Continuing students, who have been registered anytime during the previous year, can find specific registration dates and times by referring to their Registration Information Checklist online at http://rox.wright.edu or the quarterly class schedule. Students can access their schedules and grades and more on ROX.

Bursar

The Office of the Bursar has responsibility for receiving all student and other university monies, to include the administration and collection of institutional and federal loan programs. In addition, treasury services, tax compliance, and auxiliary services (vending and debit card) also report to this department.

Wright 1 Cards

You must have a Wright 1 Card to borrow library materials, use the Nutter Center, purchase a meal plan, or for other purposes on campus. Wright 1 Cards are available from the Wright 1 Card center located in the Raider Center, E146 Student Union, (937) 775-5542. You must be enrolled as a student and present a valid driver's license (or other photo ID such as a passport) to obtain a Wright 1 Card. Students have the option to deposit funds into their Wright 1 Card flexible spending account to minimize the amount of cash they need to carry. Wright 1 Cards may be used at various campus locations including all food service locations, Wright State Bookstore, Wright Copy center, Dunbar Library, all Computer Lab Print Wright Release Stations, Parking Services, WSU Pharmacy, Student Union Box Office, Student Union Recreation Desk, and most campus beverage, snack and copy machines. Residents of Hamilton Hall and Forest Lane may also use their Wright 1 Card at the laundry facilities. Deposits to the flexible spending account may be made at any Value Transfer Station (VTS) or at the Bursar Fee Payment and Deposit windows.

Students are responsible for immediately reporting lost or stolen cards. Students can visit the Raider Online Express (ROX) web site at http://rox.wright.edu to suspend a lost or stolen Wright 1 Card or by calling the Wright 1 Card center (937) 775-5542 where a “hold” will be placed on the student’s card to block any further usage. Wright 1 Card center hours are Monday through Thursday, 8:30 a.m. - 6 p.m. and Friday 8:30 a.m. - 5:00 p.m. The Wright 1 Card is permanent and does not need to be renewed each quarter. For further information, please visit the Wright 1 Card Web site at http://www.wright.edu/bursar/wrightone.html.

Paying Fees

The procedures for paying fees depend on which registration period is used. Students will find fee payment deadlines for each registration period in the university calendar by visiting the bursar web site at http://www.wright.edu/bursar. This information is also published in the quarterly schedule of classes. Students who register early but do not submit their payment by the required due date will have their registration canceled in order to make classroom space available to other students. Students who register during open registration must pay all fees and charges by the published fee payment deadline. Their registration will not be canceled. Late fees of up to $250 may be assessed for late registration or late payment. See the Registrar’s web site at http://www.wright.edu/registrar or the quarterly class schedule for refund and drop/withdrawal dates. Wright State University reserves the right to make policy and fee changes at any time during the year.

Students are encouraged to pay fees through Raider Online Express (ROX) at http://rox.wright.edu. By visiting this web site, students can apply their financial aid to account charges and
pay any remaining balance with a charge card. The university accepts Discover, MasterCard, and VISA cards and the student must either be the cardholder or have the cardholder's authorization. Students can also pay by check or money order made payable to Wright State University and sending it to the attention of the Bursar. The check should be written for the exact amount due. Incorrect checks will be returned to the sender, and registration will proceed on schedule only if a replacement check for the correct amount is received by the published due date. The university will not accept postdated checks. There is a $25 charge for each check returned to the university.

Students may also use Raider Express (the university's telephone registration system) to pay their account charges. By dialing (937) 775-4400 and selecting option 5 and then option 3, students may apply quarterly financial aid (if applicable) to their account charges and pay any remaining balance with a credit card. The university accepts Discover, MasterCard, and VISA cards and the student must either be the cardholder or have the cardholder's authorization. All charge transactions are subject to approval by the financial institution that issued the credit card.

Students have the option of using the Student Installment Payment Plan (SIPP) to spread their quarterly fees for tuition, insurance, and university housing (if applicable) over approximately three months. The plan is offered as an alternative to the single payment for fees that is normally due at the beginning of fall, winter, spring, and summer quarters. For a $30 nonrefundable fee, students pay one-third of the fees by the published fee payment deadline. The balance is divided into two installments, which are payable at the established dates about 30 days apart. There is a $35 penalty for each payment that is received after the established due date. Further information about SIPP is available at the Office of the Bursar and at http://www.wright.edu/bursar. Students may enroll and pay SIPP installment payments through Raider Online Express at http://rox.wright.edu. Application forms for SIPP are also provided as part of the registration invoice.

Payment of fees can be mailed to the attention of the Bursar in the payment envelopes provided with the billing. Payments can also be made at the Fee Payment and Deposit windows in E236 Student Union or placed in the Raider Express drop box located in the hall adjacent to the windows of the Bursar's office. Mailed payments must be received by the fee payment deadline in order to prevent the cancellation of registration. Mailed payments received after the payment deadline will be returned.

Students whose fees are paid entirely by grants, scholarships, or other sponsors must still notify the Office of the Bursar each quarter. This notification is accomplished by returning the top portion of the billing statement by the established fee payment deadline to indicate their intention to attend Wright State University. Students whose fees are paid entirely by grants, scholarships, and loans may also confirm registration and payment by visiting Raider Online Express (ROX) at http://rox.wright.edu or by calling Raider Express, (937) 775-4400 and selecting option 5 and then option 3 to confirm their registration.

Financial accounts may be audited at any time. If an error is identified, a bill or refund will be issued. The university will issue a refund within 30 days or apply the credit to the account. If students do not make acceptable arrangements to pay any amount due within 30 days, their current quarter's registration may be canceled. Students are responsible for all charges assessed to their account. All accounts that are referred to collections are subject to reasonable collections cost including attorney fees and other charges necessary for the collection of any amount not paid when due.

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**Summary of Services and Office Phone Numbers**

**Admission Information:** Office of Undergraduate Admissions, (937) 775-5700

**Financial Aid Information:** Office of Financial Aid, (937) 775-5721

**Placement Testing** dates, locations, exemptions: University College, (937) 775-5771

**Advising Appointments:** (call student's assigned advising unit) University College, (937) 775-5750; Office of Adult and Transfer Services, (937) 775-5777; for College or School, see listing on inside front cover

**Course, Registration, and Refund Information:** Office of the Registrar, (937) 775-5588, and Raider Express Telephone Registration, (937) 775-4400

**Fee Payments:** Office of the Bursar, (937) 775-5650

**Academic Support**
- for individual or group help: Tutoring Services, (937) 775-2280; Writing Center, (937) 775-4186
- for courses in study skills and/or fundamental math, reading, and writing: Developmental Education, (937) 775-5770
- for disabled students adapting to college: Office of Disability Services, (937) 775-5680
- for students age 25 or older returning to school, Office of Adult and Transfer Services, (937) 775-5777
- for intensive English instruction for nonnative speakers of English: LEAP Program, (937) 775-2505
ACADEMIC STANDARDS AND REQUIREMENTS
Requirements for a Bachelor’s Degree

To graduate with a bachelor’s degree from Wright State University, all students must fulfill the following requirements:

Credit Hours—A minimum of 123 credit hours must be earned in approved courses.

Grade Point Average—At least a minimum cumulative GPA of 2.0 must be earned for courses taken at Wright State University.

General Education—The university’s general education requirements, as explained on pages 54–59, must be completed.

Residence Regulations—A minimum of 45 credit hours must be earned at Wright State University. Credit by evaluation will not be considered as residency credit. At least 15 of the last 45 hours of credit must be earned at Wright State. A minimum of 30 hours of courses numbered 300 or above must be earned at Wright State.

Students must also fulfill all program requirements set by departments, colleges, and schools, some of which exceed these university minimums; see individual program requirements for details. Advisors in the University College, in Adult and Transfer Services, and in the colleges and schools are available for information and guidance in formulating programs of study.

Responsibility for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation rests with the student.

Students who are continuously enrolled or eligible to enroll continuously (students are eligible to enroll continuously if they are enrolled during any part of the calendar year) may elect to meet either the university requirements that were in effect when they entered Wright State or the university requirements that came into effect while they were continuously enrolled. Students who were not enrolled continuously must meet the university requirements in effect when they are readmitted to the university.

Students must meet the college or school requirements in effect when they are admitted to the college or school, and they must meet the program requirements in effect when they are admitted to a specific program or major. Students who are not enrolled continuously may be required to meet the college, school, or program requirements in effect when they are readmitted to a program. In addition, students who have not completed their program in seven years may have their college, school, or program requirements revised.

Writing Across the Curriculum (WAC)

In addition to ENG 101 and 102, students must complete a total of six designated Writing Intensive (WI) courses, four in General Education (GE) and two in the major. Effective fall 1996, this requirement applies to all new students and transfer students and to returning students who were last enrolled at Wright State summer quarter 1995.

Writing Across the Curriculum in General Education

In addition to ENG 101 and 102, all undergraduate students must complete four writing intensive (WI) general education courses, or allowable substitutions. GE writing intensive courses will be available within a number of areas, including (but not limited to) the following: Area II (all Non-Western World classes); Area III (SOC 200, SOC 205, WMS 200; EC 290, and some sections of EC 200); Area IV (all Great Books classes); Area V (some classes); Area VI (all classes). Students completing the 1987 General Education program may count writing intensive courses in the 2003 GE program toward fulfilling their writing intensive requirements.

Writing Across the Curriculum in General Education—Requirements for Transfer Students

Transfer students who have completed the transfer module that is part of the Ohio Articulation and Transfer Policy will be considered as having met the Writing in GE requirements. Transfer students who have completed at least 75 percent (40 hours) of the transfer module may meet the Writing in GE requirement by completing one writing intensive GE course. Transfer students who have completed less than 75 percent (40 hours) of the transfer module must complete the university’s General Education requirements, including the Writing in GE requirement, as follows: students with 50 percent to 75 percent (25–39 hours) of General Education completed must successfully complete two WI courses, in addition to English 101 and 102; those with 25 percent to 49 percent (14–27 hours) of General Education completed must successfully complete three WI courses, in addition to English 101 and 102; and those with less than 25 percent (fewer than 14 hours) of General Education completed must successfully complete all four designated WI courses, in addition to English 101 and 102.

When students who still need writing intensive credit in General Education courses already have credit for the General Education courses designated as writing Intensive at WSU, those students may apply credit from other designated Writing Intensive
courses to meet that requirement. Those courses may be in General Education (e.g., a second Writing Intensive science course) or, when available, a third Writing Intensive course in the major. No Writing Intensive course in the major will be counted toward both General Education and writing in the major requirements. Transfer students who do not successfully complete the WAC requirements above may satisfy the requirements for writing proficiency in GE by completing the appropriate substitution described below in Alternative Ways of Meeting WAC Requirements.

Writing Across the Curriculum in General Education—Requirements for Returning Students

Returning students who were last enrolled at Wright State summer quarter 1995 and who have not completed the General Education requirements must complete the Writing in General Education requirements as follows: students with at least 75 percent (40–56 hours) of General Education completed must successfully complete one WI course, in addition to ENG 101 and 102; those with 50 percent to 74 percent (28–39 hours) of General Education completed must successfully complete two WI courses, in addition to ENG 101 and 102; those with 25 percent to 49 percent (14–25 hours) of General Education completed must successfully complete three WI courses, in addition to ENG 101 and 102; and those with less than 25 percent (fewer than 14 hours) of General Education completed must successfully complete all four Writing Intensive courses, in addition to ENG 101 and 102.

When returning students who still need Writing Intensive credit in General Education courses have already taken earlier versions of General Education courses now designated as Writing Intensive, those students may apply credit from other designated Writing Intensive courses to meet that requirement. Those courses may be in General Education (e.g., a second Writing Intensive science course) or, when available, a third Writing Intensive course in the major. No Writing Intensive course in the major will be counted toward both General Education and writing in the major requirements.

Returning students who do not successfully complete the requirements above may satisfy the requirements for writing proficiency in GE by completing the appropriate substitution described below in Alternative Ways of Meeting WAC Requirements.

Writing Across the Curriculum in the Major

WAC in the major requires students to complete at least two WI courses in their major field. Successful completion of ENG 101 and 102 is a prerequisite for all WI courses in the major. All incoming first-year students, transfer students, and returning students who were last enrolled at Wright State summer quarter 1995 must complete this portion of WAC for their degree requirements. Beginning fall 1996, WSU graduates returning to take a second degree must complete at least two WI courses in the new major.

Students pursuing a dual major may have the writing requirements for the second major waived at the discretion of the department or college.

Alternative Ways of Meeting WAC Requirements

Students who do not successfully complete the WI portion of four GE courses (excluding ENG 101 and ENG 102) may satisfy the requirements for writing proficiency in GE in any one of the following three ways: (1) pass the WI portion of at least two GE courses and earn a grade of C or better in an approved advanced writing course; (2) pass the WI portion of at least two GE courses and prepare an acceptable portfolio that includes writing on demand; (3) earn a grade of "C" or better in an approved advanced writing course and prepare an acceptable portfolio that includes writing on demand. Students should consult with their academic advisor to determine the most appropriate means of satisfying this requirement. To fulfill the WI requirements in the major, students may, under rare circumstances, complete an Independent Writing Project or a designated WI independent reading course to fulfill only one of the two-course requirements in the major. This option requires the approval of the department chair and is not available to students for fulfilling the GE requirement.

Second Degrees

Students who hold a baccalaureate degree from an accredited institution, including Wright State, and who wish to earn a second baccalaureate degree at Wright State, must satisfy the requirements of the department and college that houses the second degree.

Residency Regulation—Students earning a second degree must earn at least 45 hours beyond the minimum hours required for the first degree. At least the last 45 hours of course work must be taken at Wright State, 23 of which must be in courses numbered 300 and above. Credit by evaluation will not be considered as residency credit.
Graduating With Latin Honors

Undergraduate students with outstanding academic records are recognized at commencement. Three distinctions are made: summa cum laude (Latin for with highest honors) recognizes a cumulative GPA of at least 3.8; magna cum laude (with high honors) indicates a cumulative GPA of at least 3.6; and cum laude (with honors) indicates a final cumulative GPA of at least 3.4.

Academic honors are based on meeting the minimum honors GPA requirement for work attempted at Wright State University, as well as for all transfer college work attempted, as of the end of the term in which the student graduates (that is, by the day on which term grades are due). In calculating cumulative GPAs for the purpose of graduating with honors, only the first grade earned for a course will be counted. This recalculation of the GPA may result in the loss of honors status at graduation. To be eligible for academic honors at graduation, students must have earned at least 45 credit hours at Wright State University. Contact the Registrar’s Office for further information.

Applying for Degrees

Before graduating, students must submit an application for a degree. See the current class schedule for specific deadline dates. Those who do not complete the graduation requirements in time must file another application for a later graduation.

Students who complete their degree requirements during winter or spring quarters participate in the June commencement. Those who complete their degree requirements during summer or fall quarters participate in the December commencement.

Scholastic Policies

Wright State is on the quarter system. The academic year is divided into three quarters (fall, winter, and spring) and a summer session. Classes are assigned values in quarter credit hours. The credit hour is based on 50 minutes of instruction each week for one quarter, although there are exceptions. Laboratory courses usually require considerably more time for each quarter hour of credit. Students should carefully plan their academic program with an advisor, especially if they are also working while going to school. However, students are responsible for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation.

Grading System

Academic achievement is indicated by the following letter grades and points used in calculating GPAs:

- A: Excellent—4 points per credit hour
- B: Good—3 points per credit hour
- C: Satisfactory—2 points per credit hour
- D: Poor—1 point per credit hour
- F: Failed—0 points per credit hour
- X: Student did not complete course or officially withdraw—0 points per credit hour

A student’s GPA at Wright State is obtained by dividing the number of points the student has earned at Wright State by the total number of hours the student has attempted, excluding the following symbols, which appear on student records but are not used in computing GPAs:

- L: Audit—given only if arranged when the student registers
- N: No report—the instructor did not report a grade
- P: Passing—indicates work of C quality or better: given only for specifically approved courses
- M: Satisfactory progress on a project—final grade assigned upon completion of the project
- T: Attendance in honors courses. Those hours are not counted toward graduation. Not used effective fall 1998.
- U: Unsatisfactory performance
- I: Incomplete—given only when part of the required work is missing and arrangements have been made with the instructor to complete the work. The instructor must submit an incomplete grade contract at the time the grade sheet is
submitted to the Office of the Registrar. If the work is not completed by the end of the following quarter, or earlier if required by the instructor, the I grade automatically is converted to an F and the grade point is recalculated, unless the instructor submits another I grade. Work for an incomplete received spring quarter does not have to be completed until the end of the following fall quarter if the instructor does not indicate an earlier date on the incomplete grade contract.

W Withdrew—given for courses from which the student officially withdrew, that the student dropped during the fourth through eighth week of classes or equivalent, or for which the student successfully petitioned for withdrawal.

Grade reports are available online at http://rox.wright.edu. Students who notice any discrepancy on their reports should contact the Office of the Registrar within 30 days after the end of the term.

Grades for Writing Intensive Courses in Writing Across the Curriculum

To receive WI credit, students must complete the writing component of the course with a grade of C or better. Writing intensive grades are entered separately from course grades on students’ transcripts as “P” (pass) or no entry. For students passing the writing component of the course, both the grades for the course and the WI component will appear on the transcript and permanent record. If a student fails the writing component, only a grade for the course will appear.

Students may pass both components of the WI course, pass the course but fail the writing component, or pass the writing component but fail the course itself. A student who passes the writing component but fails the course may receive credit for fulfilling the writing requirement but may/will still need to repeat the course to fulfill the major or general education requirement. Students who do not pass the writing component of a WI course must still satisfy the WAC requirements. Ways to meet this requirement are described on pages 48 and 54. Students should consult with their academic advisor to determine the most appropriate means of satisfying this requirement.

Academic Standing

Student Classification

Undergraduate students are classified by the total number of credit hours they have earned at Wright State plus any transfer credits that have been accepted by the university.

- Freshman 0–44.9 hours
- Sophomore 45–89.9 hours
- Junior 90–134.9 hours
- Senior 135 hours or more

Dean’s List

Students who attain high GPAs during a quarter are placed on the Dean’s List. To be named to the list, students must have at least a 3.4 GPA for the quarter; have completed for the quarter at least 12 hours of credit for courses in which they have received grades of A, B, or C; and cannot have received a grade of F, X, D, I, U, T, M, or N. The categories for the Dean’s List are: 3.4–3.59, honors; 3.6–3.79, high honors; and 3.8–4.0, highest honors.

Good Standing

Students who have earned a cumulative GPA of 2.0 or higher, or who have not been on probation for more than two consecutive quarters, are considered to be in good standing.

Probation

Scholastic action is determined on the basis of cumulative GPA. When a student’s cumulative GPA drops below 2.0, the registrar takes scholastic action by placing the student on probation. Students will not be placed on probation until they have attempted six or more credit hours. Whenever students subsequently attain a cumulative GPA of at least 2.0, they are removed from probation.

Students who are on probation must have their advisor’s approval of their course selection before they register for classes. Advisor approval is also required for all drop-add transactions. The student’s course load may be limited if the advisor feels such a restriction is necessary. The advisor may also require the student to complete counseling, remedial work, and course repeats; restrict enrollment; and require the student to complete other steps.

Scholastic actions are determined on the basis of quarter hours computed in the Office of the Registrar. Since credit hours for transfer, proficiency, and grades of M, P, and I are not used in computing quarter and cumulative averages, they are not considered in determining scholastic action.

Petitioning for Exceptions

Exceptions to scholastic regulations may be petitioned to the Undergraduate Petitions Committee. Petition forms are available in most academic department offices and in the Office of the Registrar. These forms are filed in the Registrar’s office.
Students petitioning to drop a class with a grade of W or completely withdraw from a quarter, must submit the petition to the registrar's office before the end of the quarter in which the withdrawal is requested. Petitions submitted after the quarter has ended will, if approved, remove only the hours and points from the student's GPA. In this case, the course and original grade will remain a part of the student's record. Students should consult with their academic advisor before submitting a petition.

Repeating and Auditing Courses

Repeating Courses

Courses counted as part of the first 45 credit hours (including transfer hours) can be repeated if the grade earned was a D, F, or X. The course may be repeated until the student has achieved a grade of at least a C. Only the last attempt for each course will be counted in the cumulative GPA as long as it is completed no later than the quarter in which the first 60 credit hours are earned (exception: or until the course is offered again, if ever, during the regular academic year). However, each grade received for a repeated course will become a part of the student's permanent record.

After the first 45 hours (including transfer hours), students may repeat any course in which they earned a grade of D, F, or X until they have achieved at least a grade of "C". Each grade will become part of the permanent record and will be counted in the cumulative GPA.

Students may repeat courses in which they have earned a grade of A, B, or C in order to increase their knowledge or to meet program requirements. However, the hours and points for the repeat will not be calculated in their hours earned or in the determination of their cumulative GPA. Neither will the hours or points be used to meet graduation requirements.

Whenever a student repeats a course, the student must specify this when registering.

Students in those program units where the repeat policy is more rigorous than that of the university shall follow the policy of that department, college, or school.

In calculating cumulative GPAs for the purpose of graduating with honors, only the first grade earned for a course will be counted.

Students may not repeat a course after graduation in order to alter their final GPA at the date of graduation. They may repeat a course later, but the second grade will not affect their undergraduate GPA.

Auditing Courses

If class space permits, a student may audit a course, with written approval from the instructor before enrolling. The amount of participation required of auditing students is left to the discretion of the instructor, but it cannot exceed that required of a regular student. The student may not use audited courses to establish full-time status, and the student may not change his or her registration from audit to credit or from credit to audit after the first week of class.

Dismissal and Readmission

Dismissal from the University

Students who remain on probation for two quarters may be dismissed from the university for unsatisfactory academic performance. Also, students enrolled in study skills classes who do not successfully complete more than one-half of their developmental course work over a period of three quarters will be subject to dismissal. Dismissal action is taken by the chief academic officer of the college, school, or division to which the students are assigned, in consultation with the head of the respective program unit or the academic advisor. In taking dismissal action, the academic officer will generally consider the student's progress toward meeting degree requirements as well as overall academic performance.

Notice of dismissal from the university will be sent directly to the student by the chief academic officer of the college, school, or division to which that student is assigned.

Readmission

Students who have been dismissed will not be permitted to enroll for any courses at the university for a full calendar year (four consecutive quarters, including summer quarter). Readmission is not automatic. After a period of dismissal, students must submit an application and petition for readmission.

Readmission petition forms may be obtained from, and must be submitted through, the Office of Undergraduate Admissions. Readmission petitions are reviewed by the Office of Undergraduate Admissions in consultation with the chief academic officer of the appropriate college or division. Readmitted students are continued on mandatory advising. Students who are readmitted following academic dismissal may be subject to special requirements to remove academic deficiencies as determined appropriate by the college, school, or division.
GENERAL EDUCATION REQUIREMENTS
may also choose to substitute UH 201, 202, and 203 for some General Education Areas and courses (these are designated in the General Education Program below in Areas III, IV, and V). For more information consult the University Honors Program information in the Academic Programs section of the Undergraduate Catalog.

General Education Program

Area I—Communication and Mathematical Skills

12 hours

Area I requirements help students enhance abilities central to academic success, including the abilities to write appropriate academic conventions and to formulate and interpret mathematical models.

English Composition I and II
ENG 101-4 Academic Writing and Reading
ENG 102-4 Writing in Academic Discourse
(Grade of “C” or better in ENG 101 required)

Mathematics* (RS)
MTH 145-4 Mathematics and the Modern World
(DEV 095 or equivalent or a least level three on the math placement test required)

*Substitutions: MTH 143 or MTH 228 or MTH 229 and 230 or STT 264 and 265 or STT 160.

Area II—Cultural—Social Foundations

8 Hours Minimum
Select two courses from different categories:

Area II requirements help students develop a historical perspective on their own culture, an understanding of cultures beyond their own and an awareness of the realities of global interdependence.

History (RS)
CLS 150-4 Introduction to Greek and Roman Culture
HST 101-4 Ancient and Medieval Europe
HST 102-4 Early Modern Europe: 14th through 18th Centuries
HST 103-4 Modern Europe: 19th through 20th Centuries

The Non-Western World (WI)
CSE 250-4 Comparative Non-Western Economic Systems
CST 221-4 Comparative Non-Western Environments
CST 231-4 Comparative Non-Western Literature
CST 232-4 Comparative Non-Western Religions
CST 241-4 Comparative Non-Western Cultures
CST 242-4 Comparative Non-Western Cultures: Music
CST 243-4 Comparative Non-Western Cultures: Art
CST 251-4 Comparative Non-Western Social Systems
HST 202-4 Eastern Influences on Western Health
RSE 260-4 Regional Economic Studies: Pacific Rim
RST 261-4 Regional Studies: Japan
RST 262-4 Regional Studies: China
RST 271-4 Regional Studies: Africa
RST 281-4 Regional Studies: Latin America
RST 291-4 Regional Studies: Middle East
SW 272-4 Cultural Competence in a Diverse World
URS 200-4 Growth and Change in Urban Society

Area III—Human Behavior (RS)

8 Hours Minimum
Select two courses from different categories:

Area III requirements help students develop the skills to examine critically the complexity of human behavior and institutions through systematic analysis.

Economics (WI)
EC 200-4 Economic Life (some sections are WI)
EC 290-4 Economic, Business, and Social Issues
*Sequence substitution: EC 204 and 205 (neither is WI).

Political Science
PLS 200-4 Political Life

Psychology
PSY 105-4 Psychology: The Science of Behavior

Sociology(WI)
SOC 200-4 Social Life
SOC 205-4 The Sociological Imagination
WMS 200-4 Approaches to Women’s Studies

Substitution: Honors course UH 202 for any one Area III course.
Area IV—Human Expression (RS)

4 hours Minimum
Select one course:

Area IV requirements will help students develop an intellectual and aesthetic appreciation of significant artistic works and of important literary, religious, and philosophical texts. Students will explore how such works express both personal vision and cultural concerns. They will also examine the specific means writers, composers, and creative and performing artists adopt to communicate with their audience.

Great Books (WI)

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CLS 204-4</td>
<td>Great Books: Classical Beginnings</td>
</tr>
<tr>
<td>ENG 204-4</td>
<td>Great Books: Literature</td>
</tr>
<tr>
<td>PHL 204-4</td>
<td>Great Books: Philosophy</td>
</tr>
<tr>
<td>REL 204-4</td>
<td>Great Books: Religion</td>
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Fine and Performing Arts

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ART 214-4</td>
<td>Visual Art in Western Culture</td>
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<tr>
<td>MUS 214-4</td>
<td>Music in Western Culture</td>
</tr>
<tr>
<td>MUS 290-4</td>
<td>African American Music: America and Beyond</td>
</tr>
<tr>
<td>TH 214-4</td>
<td>Theatre in Western Culture</td>
</tr>
</tbody>
</table>

*Substitution: MUS 121

Area Substitution: Honors course UH 201 (WI) for Area IV.

Additional Courses From Areas II, III, and IV

8 hours

This component provides students the opportunity for in depth study and thus the opportunity to strengthen understanding and competencies in two of three areas.

Select two additional courses from Areas II, III, or IV, one course from two of these three areas. Except for Area II, the course selected must come from a different subcategory than the course(s) chosen to meet that area requirement.

Area V—Natural Science (RS)

12 Hours
Select three courses (lecture and lab):
At least one must be WI (some section offerings are WI)

Area V courses emphasize scientific inquiry as a way to discover the natural world, and they explore fundamental issues of science and technology in human society.

Biology*

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIO 105-4</td>
<td>Introductory Biology: Food</td>
</tr>
<tr>
<td>BIO 106-4</td>
<td>Introductory Biology: Biodiversity</td>
</tr>
<tr>
<td>BIO 108-4</td>
<td>BIO 107? Introductory Biology: Disease</td>
</tr>
</tbody>
</table>

*Sequence substitution: BIO 112, 114, and 115.

Chemistry*

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CHM 105-4</td>
<td>Chemistry of our World: Living Things</td>
</tr>
<tr>
<td>CHM 106-4</td>
<td>Chemistry of our World: Materials</td>
</tr>
<tr>
<td>CHM 107-4</td>
<td>Chemistry of our World: Energy and the Environment</td>
</tr>
</tbody>
</table>

*Sequence substitution: CHM 121, 122, and 123; or CHM 102, ANT 201 and 202.

Geology*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL 105-4</td>
<td>The Planet Earth</td>
</tr>
<tr>
<td>GL 106-4</td>
<td>The Evolving Earth</td>
</tr>
<tr>
<td>GL 107-4</td>
<td>The Earth and Human Affairs</td>
</tr>
</tbody>
</table>

*Sequence substitutions: GL 251/252, 253/254, and 255/256.

Physics*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 105/115-4</td>
<td>Sounds and Colors</td>
</tr>
<tr>
<td>PHY 106/116-4</td>
<td>Planetary Astronomy</td>
</tr>
<tr>
<td>PHY 107/117-4</td>
<td>Stars, Galaxies and the Cosmos</td>
</tr>
</tbody>
</table>

Substitution: Honors course UH 203 for any one Area V course, but not for a program science requirement.

Additional Area V sequence substitutions: BIO 345 or 346, CHM 245 or 246, GL 345 or 346 and PHY 245 or 246; BIO 107, HPR 250, and HPR 251.
Area VI—College Component (RS; WI; T)

4 Hours
Select one course specific to the college of your major:

Area VI requirements link general education more closely with study in the major, thereby making more apparent the applicability and transferability of general competencies to specialized study.

College of Education and Human Services
CNL 210-4 Understanding Emotional Intelligence
ED 210-4 Education in Democracy
RHB 210-4 Introduction to Drugs and Alcohol

College of Engineering and Computer Science*
EGR 190-4 Fundamentals of Engineering and Computer Science

*Required of students admitted to this college with 45 or fewer quarter hours; students admitted with more hours must select another Area VI course approved by the department advisor.

College of Liberal Arts
AFS 200-4 What is African and African American Experience?
ATH 241-4 Introduction to Physical Anthropology
ATH 242-4 Introduction to Archaeology
CSE 250-4 Comparative Non-Western Economic Systems
CLS 204-4 Great Books: Classical Beginnings
CST 221-4 Comparative Non-Western Environments
CST 231-4 Comparative Non-Western Literature
CST 232-4 Comparative Non-Western Religions
CST 241-4 Comparative Non-Western Cultures
CST 242-4 Comparative Non-Western Cultures: Music
CST 243-4 Comparative Non-Western Cultures: Art
CST 251-4 Comparative Non-Western Social Systems
EC 290-4 Economic, Business, and Social Issues
ENG 204-4 Great Books: Literature
HST 200-4 Western Europe and Non-Western Europe
HST 220-4 Introduction to Gender History
HST 221-4 American Diversities
MUS 290-4 African American Music: America and Beyond
PHL 200-4 Critical Thinking
PHL 204-4 Great Books: Philosophy
RHE 204-4 Great Books: Religion
RSE 260-4 Regional Economic Studies: Pacific Rim
RST 261-4 Regional Studies: Japan
RST 262-4 Regional Studies: China
RST 271-4 Regional Studies: Africa
RST 281-4 Regional Studies: Latin America
RST 291-4 Regional Studies: Middle East
SOC 200-4 Social Life
SOC 205-4 The Sociological Imagination
SW 272-4 Cultural Competence in a Diverse World
TH 250-4 Script Analysis
URS 200-4 Growth and Change in Urban Society
WMS 200-4 Approaches to Women's Studies

Raj Soin College of Business
EC 290-4 Economic, Business, and Social Issues
FIN 205-4 Personal Financial Decision Making

College of Science and Mathematics*
EH 205-4 Environmental Science and Society
PSY 110-4 Psychology: The Science of Behavior II

* Majors in this college may be able to select other Area VI courses; consult the major program advisor.

WSU-Miami Valley College of Nursing and Health
HLT 201-4 Human Expressions in Health
HLT 202-4 Eastern Influences on Western Health
HLT 203-4 The Languages of Health Data
NUR 212-4 Nursing for Health and Wellness Lifestyle

Total Hours Required 56

Descriptions of individual courses are available in the Course Descriptions section of the catalog.

RS = A required substitution or a required selection is possible; consult major program requirements.
WI = Writing Intensive courses. EC 200 (Area III) and Natural Sciences (Area V) courses offered as WI may vary from quarter to quarter; consult quarterly class schedule for WI offerings.
T = Students who complete an Area VI course in one college and then transfer to another may not need to take another Area VI course. Consult with the college to determine its transfer policy.

Note: A course listed in two areas may only be used to meet one area requirement.
UNIVERSITY COLLEGE
ENHANCING YOUR SUCCESS
University College

Enhancing Students’ Success

The University College plays a leadership role in ensuring each student’s positive transition to university life. Virtually all undergraduate students, including transfer students, begin their academic career in the University College. In fact, the college serves as the academic home for more than 40 percent of the undergraduate student population at the university. While in the University College, students typically complete the majority of their general education and writing intensive requirements, and meet the entrance requirements to their major. The college also exemplifies the university’s longstanding commitment to foster each student’s individual academic success. The University College provides academic advising; tutoring and testing services; leadership development programs; basic courses in reading, writing, mathematics, and college study strategies; and the First-Year Seminar and learning communities. An academic advising center, office for adult and transfer students, office for developmental education and a mathematics learning center also offer free individualized assistance to students.

The University College works hard to create a welcoming atmosphere for new students through many activities and programs, but also works to ensure that students are academically prepared to pursue a major of their choice in one of the university’s six degree granting colleges.

Helping Students Adapt to University Life

One of the most important responsibilities of the University College is to work with the campus community to help students successfully adapt to university life as quickly as possible. Successful adaptation ensures that as many students as possible return to the university for their sophomore year and subsequent years of study. The college helps students adapt by providing critical services and programs that ensure students become academically prepared to achieve academic success, and move as quickly as possible into an appropriate major of study.

Services and Programs

The University College helps students succeed through a variety of services and programs, including:

- Academic advising
- Learning communities
- A comprehensive first-year experience including placement testing, Summer On-Campus Advising and Registration (SOAR), Convocation and First Week
- Courses: DEV 071, 072, 073, 081, 082, 083, 091, 092, 093, 095 (writing, reading, mathematics)
  UVC 101, 102 (First Year Seminars)
  UVC 107 (Stress Management)
  UVC 110 (Returning to Learning)
- Articulation agreements with two-year institutions
- Math assistance through the Math Learning Center
- Tutoring and supplemental instruction
- Leadership opportunities through the C. J. McLin, Jr. Leadership Development Program and UC Student Council

Research shows that these programs are having a very positive impact on student success at Wright State University.

Academic Advising Center

Academic Advising Center advisors help students develop academic success strategies, become oriented with the university, and select and schedule classes. During advising, students are given information about appropriate academic services, such as tutoring or Developmental Education courses, and referrals to offices that provide specialized support, such as for disabled students, Honors students, or students age 23 or older. In addition, advisors help degree-seeking students focus on their university general education requirements and fulfill the admission requirements of their selected majors. The Academic Advising Center staff also teach the First Year Seminar and facilitate learning communities for their students. Once admitted to their majors, students are supported by college and department advisors.

Adult and Transfer Services

The office of Adult and Transfer Services provides academic advising to transfer, returning and adult students (23 and older) who have not met the admission requirements for their major. Prospective transfer students are encouraged to contact the department of their major or the Adult and Transfer Recruiter in the Undergraduate Admissions office for information.

Adult and Transfer Services staff assist students with understanding college admission requirements, evaluations of transfer credits, and referrals to resources. Handouts and brochures are available. Adult students who are 23 or older and are returning to college after a break in their education can take the UVC 110 course, Returning to Learning, for help with study skills, stress management, time management, and role balancing.
Adult and Transfer Services staff coordinate articulation agreements (formerly known as 2 + 2 agreements) with community colleges, work collaboratively with Sinclair Community College to publish the “Sinclair to Wright State Transfer Guide”, and maintain the course equivalencies in the Degree Audit Reporting System (DARS) and on the Course Applicability System (CAS) Web site at www.transfer.org.

**Developmental Education**

The office of Developmental Education offers skill-building courses in reading improvement, basic writing, fundamental English, and basic mathematics. The scores obtained from the university-administered placement tests determine appropriate placement into nearly all of these courses. Also offered are study strategies for students who need improvement before taking college-level courses. Students taking basic writing and fundamental English or reading improvement courses are scheduled to spend at least one hour per week in the writing and reading centers.

In addition to reading, writing, and basic math, students are encouraged to enroll in College Study Strategies and the First-Year Student Seminar. One credit hour is earned for the strategies course and two credit hours for the seminar. For each of the other skill-building courses, three to six hours of credit can be earned.

**Tutoring Services**

The Tutoring Office strives to locate a tutor for any course offered at the university in which a student may be experiencing difficulty. Students can sign up for tutoring not only to pass a course, but also to improve their grade in a course. Initial application for placement with a tutor should be made in person at the Tutoring Office. Veterans and students supported by the Bureau of Vocational Rehabilitation may be able to be reimbursed for their tutoring expenses. The office will also direct students to “help rooms” provided by various departments, where walk-in tutoring is available.

The Tutoring Office also coordinates a Supplemental Instruction Program in conjunction with specific General Education classes. For classes with a Supplemental Instruction component, students can attend free weekly study sessions. Information on which specific classes offer Supplemental Instruction can be obtained from the Academic Advising Center or the Tutoring Office.

**Mathematics Learning Center**

The Mathematics Learning Center, created to enhance the learning of mathematics, provides many services including:

- free walk-in assistance to students enrolled in introductory math courses
- individualized evaluation and instruction to supplement the classroom experience
- collaborations with Developmental Education and Department of Mathematics and Statistics to coordinate appropriate assistance.
First Year Experience

First year students need assistance to successfully navigate through their initial year of college. The First Year Experience (FYE) is a wealth of opportunities provided by many dedicated faculty, staff, and students who are committed to helping new students through this learning process. For newly admitted students, the FYE begins simultaneously in Academic Affairs including the University College, Student Affairs and Enrollment Services. Staff in these divisions work collaboratively with the university community to coordinate numerous first year student activities. Incoming students participate in both academic and student life activities that help them adjust to college, achieve academic success, grow and develop personally, and explore career development.

Early components of the First Year Experience include placement testing. Summer On-Campus Advising and Registration (SOAR), Convocation, First Week, and learning communities.

Placement Testing

New students must complete appropriate testing before scheduling an academic advising appointment to prepare for course registration. (Note: students under the age of 23 who attend Summer On-Campus Advising and Registration (SOAR) will undergo testing and registration as part of the SOAR process). The University College conducts placement testing in mathematics, reading, and writing for undergraduate students who are new to the university. Some students (transfer, new, and continuing) may not be required to complete placement testing. Students should contact the University College for additional information regarding transfer credit. Advanced Placement or other exceptions.

New Students’ Enrollment

All new students will follow the procedures outlined in their letters of admission to complete placement testing, advising, and registration.

Summer On-Campus Advising and Registration (SOAR)

First year students under the age of 23 with no previous college experience who are enrolling for fall quarter attend SOAR. While on campus, students receive academic advising from an advisor in the University College, choose a learning community, register for fall classes, and receive their WSU computer accounts. Information about placement testing and SOAR is mailed to newly admitted students in the spring and is also available at www.wright.edu/univ -college or in 180 University Hall. Transfer students and students who do not attend SOAR may also refer to the website.

All new students beginning winter, spring, or summer quarters will follow the procedures outlined in their letters of admission.

Learning Communities

Wright State provides learning communities to help new students adjust quickly and become successful in college. Each learning community (LC) is a small group of students who take two or more classes together during their first quarter.

Most LCs are based upon a first year seminar, such as LA 101, SM 198, or UVC 101. These courses provide an opportunity for students to make new friends, share learning experiences, learn college success strategies, and receive personal attention as part of a supportive college family.

All students in a particular first year seminar are also enrolled in one to three additional courses that are part of the general education requirement. This facilitates the formation of study groups. There are a variety of types of learning communities from which to choose. Academic advisors will help new students explore the options and select an appropriate learning community.

Choosing Courses

Students are responsible for choosing courses that are appropriate for their academic needs and goals. Although there are many factors for students to consider, choosing classes need not be viewed as a difficult task. Normally a student who has declared a major will refer to an official listing of required and recommended courses for that major, including general education courses. There are several sources for finding these required and recommended courses. This catalog, for instance, shows program requirements for each major and a summary of General Education courses. Also, most academic departments provide program checklists for their majors.

On the next few pages, students will find the following references:

- **Math and Statistics Sequences.** This flow chart shows some of the most commonly required sequences and prerequisites. It is a graphic guide to which mathematics and statistics courses must be taken in what order.
• Still Deciding on a Major? This section outlines the first-year program for undecided students.

• Exploring Majors and Careers. This guide suggests some on- and off-campus resources for students who need guidance in choosing a major or career.

• Summary of Program Admission Requirements. This quick reference shows admissions requirements for each college. Where applicable, a further breakdown is given of admissions requirements to individual departments.

Meeting With an Advisor

All first-year University College students must meet with their academic advisor each quarter for help in choosing courses consistent with goals, needs, and academic progress. Other students in University College may be required to meet with their advisor as a result of their academic standing. It is recommended that students meet with their new advisor upon transferring to the college or school of their major. Although students are ultimately responsible for their own decisions, advisors are available to assist.

Course Registration Tools

Several tools are available to students for checking the availability of a specific course, prerequisites, corequisites (e.g., a concurrent lab), and restrictions that limit enrollment in a particular section of a course to a specific group of students, such as “honors” or “early childhood education majors.”

• Raider On-Line Express (ROX)
• Raider Express Telephone Registration
• Designated computer terminals
• Quarterly Class Schedule Bulletin

First-Year Courses

First-year students usually choose most of their courses from general education, math, developmental education, and specific courses required for their major as listed in the catalog or on a program check sheet. Students are expected to complete the general education English, math, history, and natural science requirements before reaching junior status.

English Courses

Placement results (or transfer credit) determine which English course a student should enroll in first. The student’s advisor will interpret this information for the student. Some students need developmental education course work to prepare them for ENG 101. Many first-year students will not start ENG 101 until their second quarter, and many of those who do take ENG 101 their first quarter will not enroll in ENG 102 until their third quarter.

Math Courses

Once students begin math courses, it is recommended that they continue with math each quarter until their math requirements are completed. The starting point is determined by placement test score or transfer credit, and the final math courses are shown in the major’s program requirements in the catalog listing and on the departmental checksheets. The Math and Statistics Sequences chart in this catalog is a graphic guide showing common math and statistics course pathways.

Writing Across the Curriculum

For information on the university’s Writing Across the Curriculum program and Writing Intensive (WI) courses, see the Academic Standards and Requirements section of this catalog. Writing Intensive courses are identified as “WI” in the General Education Program listing.

Courses Required to Enter a Major

First- and second-year students should select appropriate courses that will allow them to satisfy the requirements to enter the college and department of their major. The Summary of Program Admission Requirements in this catalog is an abbreviated listing of these requirements. Using this guide, students may determine what specific courses, grades, or GPA they need for entry. The listing may also be useful to students advised in the University College who must select a new major because they have reached 90 hours (135 hours in Adult and Transfer Services) and still have not met the admission requirements for their intended major.

Entering a Major

All University College students with a cumulative GPA of 2.0 or higher must enter a major within a degree-granting college by the time they have earned 90 credit hours, (or 135 credit hours if advised by Adult and Transfer Services) or they will be converted to nondegree status. Nondegree students are ineligible for financial aid, veteran’s education benefits, and intercollegiate athletics.
Math and Statistics Sequences

This chart displays the prerequisites and sequences for commonly required math and statistics courses. Prerequisites for a particular course are shown above that course. Students’ first math courses depend on their math placement levels and majors. Students should consult with their advisor or catalog/program checklist for more detailed information.
Still Deciding on a Major?

Some majors require that students select specific General Education courses while others allow choices. Substitutions for certain General Education courses may also be required for some majors. Students who are still exploring majors should follow the first-year schedule below and work closely with their academic advisor. Undecided students should also refer to the Exploring Majors and Careers guide in this catalog for help in choosing courses and exploring majors.

First-Year Schedule for Undecided Students

Fall
UVC 101 (Undecided section)
ENG ___ or DEV ___ *
MTH ___ or DEV ___ *
Gen Ed or Elective

Winter
UVC 102
LA 201 (Career Planning)
ENG ___ or Gen Ed
MTH ___ or Gen Ed
Gen Ed or Elective

Spring
LA 401 (Career Decisions)
ENG ___ or Gen Ed
MTH ___ or Gen Ed
Gen Ed or Elective

*Initial courses in English and mathematics are determined by placement tests or transfer credit.

Exploring Majors and Careers

Where and How to Get Information

Career Services: 3rd Floor, Student Union, (937) 775-2556
- Career exploration counseling
- SIGI PLUS: computerized career guidance system
- Career resources library
- Trade publications
- Future job trends information

University College: University Hall, (937) 775-5750
- First year seminars (UVC 101, 102) designated for undecided students
- Academic advising and adjustment strategies
- Information on requirements for majors

Referral Sources: Informational interviewing (“networking”)
- Advisors in the colleges
- Professors
- Professionals working in areas of interest
- Family members and friends

Courses
- General Education
- Electives to explore areas of interest
- Skill-building courses: computer literacy, interpersonal communication, technical/professional writing, etc.
- Class visits to learn course content (with instructor approval)
- College-sponsored career information courses

Campus Bookstore
- Textbooks for courses of possible interest

Volunteer Opportunities
- Local, state, and national organizations
- Community service
Summary of Program Admission Requirements

Listed below is an abbreviated summary of the requirements to enter major programs, organized by college, and then by department, where needed. For a detailed statement of the admission requirements for a particular program, please see the listing for that specific college and the major in the following sections of the catalog. Grade point averages (GPA) are cumulative unless labeled otherwise.

Raj Soin College of Business (see p. 71)
• 2.5 GPA • 45 hrs. • grade of “C” or higher in ENG 101, 102, and MTH 128/129 or in a higher-level math course

College of Education and Human Services (see p. 83)
• 2.5 GPA • 45 hrs. • acceptable scores on the Pre-Professional Skills Test (PPST) • formal application • interview • two letters of recommendation • writing sample (minimums for consideration for admission)
—Middle Childhood Education • 2.5 GPA • 45 hrs. • statement of good moral character
—Organizational Leadership • 2.00 GPA • 90 hrs.
—Rehabilitation Services • 2.35 GPA • 24 hrs.

College of Engineering and Computer Science (see p. 101)
• 2.25 GPA • 45 hrs. • grade of “C” or higher in ENG 101, 102, MTH 229, 230

Additional requirements for specific majors:
—Computer Science: • 2.25 GPA in all CS and CEG courses • grade of “C” or higher in CS 240, 241, 242
—All Engineering programs, including Computer Engineering:
• grade of “C” or higher in MTH 231, CHM 121 or PHY 240/200, and the computer programming class(es) specified by the department

College of Liberal Arts (see p. 117)
• 2.0 GPA • 24 hrs. • ENG 101 and 102 with grade of “C” or higher, plus three other General Education courses from Areas 2, 3, or 4.

Additional requirements for specific majors:
—African and African American Studies: • 2.25 GPA
—Communication: • 2.5 GPA
—Criminal Justice: • 2.3 GPA
—Economics: • grade of “C” or higher in MTH 128/129 or in a higher-level math course
—Modern Language: • 2.5 GPA or 3.0 GPA in foreign language courses
—Motion Picture BA: • 2.25 GPA
—Social Work (minimum for consideration for admission): • 2.25 GPA • grade of “C” or higher in SW 270 and 271 • formal application • additional requirements on p. 666
—Music • audition • three outside recommendations • formal application
—Urban Affairs: • 2.3 GPA
—B.F.A. in Art or Theatre (except for Motion Picture Production): • only 2.0 GPA and 24 hrs. are required • audition required for Acting, Musical Theatre, and Dance
—B.F.A. in Motion Picture Production: • only 2.25 GPA, 24 hrs. and grade of “B” or “A” in TH 131 and 180
College of Nursing and Health (see p. 165)
- 2.5 GPA • 48 hrs. in prescribed courses • 2.5 GPA and grade of “C” or higher in all prerequisite courses • formal application • competitive admission • additional requirements on p. 666

College of Science and Mathematics (see p. 167)
- 2.0 GPA • 24 hrs. • grade of “C” or higher in 2 courses in chosen major
Additional requirements for specific majors:
—Math: • MTH 229 and 230 with grade of “C” or higher in each and 2.5 GPA or higher for the average of the two
—Psychology: • 2.25 • 30 hrs.
Dean: Berkwood M. Farmer
Associate Dean: Richard E. Williams
Director, Undergraduate Programs: Margaret J. Bott
Assistant Director, Undergraduate Programs: JoAnn Bevelhmyer
Undergraduate Program Advisor: Stefanie Kohne

Department/Chair
Accountancy: James Greenspan
Economics: James A. Swaney
Finance and Financial Services: Peter W. Bacon
Management: Crystal L. Owen
Management Science and Information Systems: Vikram Sethi
Marketing: Paula M. Saunders

The Raj Soin College of Business is fully accredited at both the undergraduate and graduate level by AACSB International—The Association to Advance Collegiate Schools of Business, which is the highest accrediting body for business colleges in the United States. This means that our faculty, curriculum, and all other educational resources are thoroughly and professionally evaluated by an independent board of educators and has been found to be of exceptional quality.

The college is committed to exceeding the standards advanced by the AACSB International. Our aim is to create an environment that fosters faculty development and strengthens the college’s links with the external community. The college’s academic programs provide the foundation for continuing self-development; educate students to be aware of the business person’s responsibilities in the political, social, and economic order of society; and teach students to adjust to the rapidly changing global business environment.

In addition to offering the Bachelor of Science in Business, the college also offers three graduate programs: the Master of Business Administration, Master of Science in Social and Applied Economics, and Master of Accountancy.

Admissions and Advising

All students who are interested in a degree in business should apply to Wright State University’s Office of Undergraduate Admissions. When applying, students should indicate their preferred major within the college, if known. Business majors are required to complete the program of study that is in effect at the time of their admission to the Raj Soin College of Business. Specific requirements for admission to the college follow; these requirements are subject to change.

Admission From University College and Other WSU Colleges

The college has a two-tier admission process. Students in University College or another unit of Wright State must meet the following Tier I requirements to transfer to the Raj Soin College of Business:

Tier I
1. 45 hours earned.
2. Completion of ENG 101 and 102, and either MTH 128 or 129 (or higher-level math class), all with a letter grade of "C" or better.
3. 2.5 minimum cumulative GPA.

Students who meet the above requirements will be assigned to a prebusiness category and will be required to meet the following Tier II requirements before they can enroll in junior- or senior-level classes.

Tier II
Completion of:
ACC 204, 205
EC 204, 205
MS 204, 205
CS 205
MTH 228

Transfer and Returning Students

Transfer students seeking admission to the Raj Soin College of Business must satisfy the same criteria stated for Wright State students. Acceptable transfer credit will satisfy any of the above requirements.

Students who return to Wright State University after being absent for four or more quarters must reapply for admission and satisfy the same admission requirements listed above for Wright State students. These students will be required to complete the program requirements that are in effect at the time of their readmission to the college.

Enrollment in 300- or 400-level business classes is restricted to business majors who have completed Tier II and attained junior standing. This is to ensure that students have the appropriate prerequisites and an adequate foundation for their professional course work in business.

In the quarter that they register for their last Tier II requirements, students will be automatically transferred from a prebusiness to a business major.
number permitting enrollment in 300-level business classes. If a student finds that this has not happened and he or she cannot register for 300-level business classes, the student should contact the advising office immediately.

Advising

Program advisors are available in 110 Rike Hall to help students plan their program of study. Students receive a list of their General Education and major degree requirements when they are admitted to the college, and they are required to meet with an advisor to review these requirements and sign the requirements sheets. Signatures are not required for registration, but students are encouraged to see an advisor at least once a year to be sure they are on schedule for their projected graduation date. Advisors may also provide help with procedural or academic problems.

Students will also be assigned a faculty advisor based on their major. Faculty advisors can discuss career opportunities and career planning, recommend major and business electives, and discuss the curriculum of their major field.

If a student’s cumulative GPA falls below the 2.0 required for graduation, the student will be placed on probation. If a student’s cumulative GPA remains below 2.0 for three consecutive quarters, the student is subject to dismissal. Students on probation should meet with an advisor each quarter before registering.

Degrees and Areas of Study

A broad curriculum is offered, leading to a Bachelor of Science in Business degree with majors in accountancy, business economics, finance, financial services, human resource management, international business, management, management information systems, marketing, and operations management.

The requirements for a Bachelor of Science in Business degree consist of four components. The first is the university General Education requirements (see page 55) for an explanation of General Education requirements. The second are the business core requirements that all students in the Raj Soin College of Business complete. This is to provide the student with an understanding of all functional areas of business. The third component consists of the requirements of the student’s particular major in business. The fourth is comprised of business and nonbusiness electives. Business electives must be chosen from courses that are offered by the Raj Soin College of Business but are not already required by the student’s major. Nonbusiness electives are nonbusiness courses similar to the General Education requirements. Certain restrictions do apply and are noted on the major checklists. The exact number of electives required will depend on a student’s major in business.

Students wishing to pursue a double major within the Raj Soin College of Business must formally declare their intention to do so. To earn a double major, students must complete all minimum requirements for both programs of study.

Graduation Requirements

In order to graduate, all students must:
1. Complete 187 (189 if admitted prior to fall 03) credit hours of acceptable academic work.
2. Attain a 2.0 or better GPA.
3. Complete all course requirements as specified by the student’s program of study.
4. Complete the last 45 hours of course work at Wright State.
5. Complete at least 50 percent of required business courses at Wright State.
6. Complete a minimum of 30 credit hours of upper division course work at Wright State.
7. (For accountancy and management majors) maintain a 2.0 or better cumulative GPA in major courses.

Seniors should meet with their academic advisor before their last quarter to be sure they have completed all requirements for graduation.

Business Minors

A minor program provides students with a structured concentration of study that will be noted on students’ transcripts. The following minors are offered by the Raj Soin College of Business.

The Business Minor is open to nonbusiness majors who have been admitted to a major program of study. Students may apply for the Business Minor after completing all 200 level course requirements and achieving junior standing. This minor is recommended for nonbusiness majors who may wish to pursue a Master of Business Administration. Forty-eight hours are required: CS 205; EC 204, 205; ACC 204, 205; MS 204, 205; MGT 304; MKT 300; FIN 310; LAW 300; and MIS 300.

Economics is open to business and nonbusiness majors who have been admitted to a major program of study, earned junior standing and completed EC 204 and 205 with grades of “C” or better. Twenty-four hours are required: EC 204, 205 and four economics electives.
International Business is open to nonbusiness majors only. Students will be admitted when they are established in a major and have earned junior standing. Twenty-eight hours are required: PLS 222. IB 201, MGT 304, MGT 485, MKT 300, MKT 421, and one business foreign language course.

International Trade is open to business majors only. Students will be admitted after completing Tier II requirements and earning junior standing. Twenty-four hours are required: IB 486; four of the following: ACC 454, MGT 485, MS 334, MKT 421, FIN 490 and one of the following: EC 435, 310 or 444.

Management is open to business and nonbusiness majors. Students will be admitted when they have attained junior standing and have been admitted to a major program of study. Twenty-four hours are required: MGT 304, 321, 411; LAW 300 and two electives.

Management Information Systems is open only to business majors. Students will be admitted after attaining junior standing and completing Tier II requirements. Twenty hours are required: MIS 325, 345, 415, 425 and one elective.

Operations Management is open to business and nonbusiness majors. Students will be admitted when they have attained junior standing and been admitted to a major program of study. Twenty-four hours are required: MS 205, 307, 320, 330 and two electives.

Marketing is open to business and nonbusiness majors. Students will be admitted when they have attained junior standing and have been admitted to a major program of study. Twenty-four hours are required: MKT 300, 303, 446, and three electives.

Nonbusiness majors may complete only one minor and may not take additional business courses beyond those required for their minor. Liberal Arts Economics majors and Organizational Leadership majors may not complete any business minor.*

Additional information and application forms for business minors are available in 110 Rike.

Students who successfully complete this program will graduate “With Honors.” To graduate with the distinction of “University Honors Scholar” students must complete the college honors program and the university honors requirements.

Cooperative Education and Internships

The Cooperative Education Program at Wright State University gives students a chance to integrate classroom theory with practical, career-related work experience. Business students may alternate full-time quarters of on-campus study with quarters of full-time educationally related jobs, or may choose to combine a part-time co-op work schedule with a reduced, but full-time, course load.

Through the co-op program, students can gain valuable learning experiences, test career interests, learn more about business career fields, and develop job-related skills, as well as earn income for college expenses. Details on program requirements and procedures are available in the Office of Career Services, E334 Student Union.

Internships are a one-time experience that permit students to apply what has been learned in the classroom to an actual work experience. Students may earn academic credit for an internship if it is supervised by a faculty member in their major department. Students should contact their departments for information on internships.

Student Organizations

Each of the majors offered by the Raj Soin College of Business sponsors a student club. Participation in these clubs gives students an opportunity to gain valuable career information and develop closer ties with the faculty and other students in their major. Club activities include business meetings, speakers from business and industry, tours of local businesses, career fairs, and social events.

The current clubs are the Accounting Club, Association of Information Technology Professionals, Economics Club, Finance Club, International Business Club, Operations Management Club, Management Club, and Marketing Club. Several of these clubs are affiliated with professional societies. Membership in these clubs is open to all students. Students may contact the appropriate department office for information on how to join.

Honors Program

The honors program provides qualified students an opportunity to enrich their education with an intensive program of independent study. Minimum requirements for admission to the honors program are: a cumulative GPA of 3.4 for all course work and a cumulative GPA of 3.5 in business courses (Accountancy majors must also have a 3.6 GPA in Accounting courses.) Students should apply for this program at least 15 months prior to the expected date of graduation. Applications and additional information are available in 110 Rike Hall.
The Association of Black Business Students was organized to strengthen the relations between black students and the entire campus and business community. The association promotes academic excellence, professional and personal development, and cultural awareness. Membership is open to any Wright State University student.

The Dean's Student Advisory Board serves the Raj Soin College of Business students as a link between the Dean, the students, and the business community.

Honor Societies

A chapter of Beta Gamma Sigma, the national scholastic honor society in business and administration, was established at Wright State in 1976. In 1984, the Alpha Delta Chapter of Omicron Delta Epsilon, an international honor society for economics scholars and students, was chartered at Wright State. In addition, there is a chapter of Alpha Iota Delta, the national honor society for operations management majors; Beta Alpha Psi, the national honorary accountancy fraternity; and Sigma Iota Epsilon, the national honorary management fraternity.

Departments/Major Programs

There are 10 major programs available to students in the Raj Soin College of Business. For those students who wish to major in business, but who do not know which major they are interested in, there is an undecided category. To ensure timely graduation, students are encouraged to select a major before the junior year. However, students may remain undecided until the middle of their junior year; by that time they will have had course work in all the major areas in business and will be in a better position to decide on a major. Advisors are available to help students with this decision. Students who intend to major in accountancy, international business, management information systems, or operations management should declare their major before their junior year, because the major requirements follow a specific sequence. Generally, it is possible to change majors within business during the junior year without delaying graduation.

Required Courses—Majors in Business

An official list of major requirements and scheduling information will be mailed at the time the student is admitted to the college. Since this list represents a contract between the college and students, it is important that students meet with an advisor to review the requirements and sign the program of study form. Major course requirements, planning information, career related information and additional information is available on the Raj Soin College of Business Web site at www.wright.edu/business

General Education Requirements (see page 55) 48

Required Substitutions:

Area I: MTH 228

Mathematics (counted in Business Core)

Area III: EC 204, 205

Economics (counted in Business Core)

Area VI: College Component: 4 hrs

EC 290 or FIN 205

The RSCOB will accept other college component courses for students who change majors.

Business Core Requirements

COM 203 Business Communications 3

MTH 128 or 129 College Algebra 3

MTH 228 Calculus for the Management, Life and Social Sciences 5

CS 205 Office Automation and Computer Literacy 4

ACC 204, 205 Accounting Principles I and II 8

EC 204 Principles of Microeconomics 4

EC 205 Principles of Macroeconomics 4

ENG 330 Business Writing 4

MS 204 Introduction to Probability and Statistics 4

MS 205 Quantitative Business Modeling 4

FIN 310 Financial Management I 4

EC 310 The Global Economy 4

MGT 304 Management and Organizational Behavior 4

LAW 300 The Legal Environment of Business 4

MS 307 Introduction to Operations Management 4

MIS 300 Introduction to Management Information Systems 4

MKT 300 Principles of Marketing 4

MGT 493 Public Policy and the Business Environment 4

MGT 499 Strategic Management and Organizational Policy 4

Major Requirements 60

Total 187

Business Minor (see page 73)
The objective of the accountancy major is to educate students for professional careers in public, industrial, governmental, and not-for-profit accounting. To this end, the program provides a broad educational experience for students and gives them a background for completing professional accounting examinations such as the CIA (Certified Internal Auditor) and CMA (Certified Management Accountant). Accountancy majors may consider a minor in either management information systems or computing and information technology to complete the bachelor program in order to meet the education requirements of the Accountancy Board of Ohio.

Transfer students who major in accountancy should note that at least 20 credit hours of their accountancy courses must be taken at Wright State.

The department has a chapter of Beta Alpha Psi, the national accountancy honorary fraternity.

Statement of Academic Integrity

Accounting professionals are expected at all times to maintain a high level of integrity. Similarly, the expectation of those studying Accounting is for students to maintain a high level of integrity and ethics in their study of the discipline. Accordingly, any student found to be guilty of academic dishonesty, plagiarism, etc., may be subject to expulsion from any undergraduate or graduate program offered by the Department of Accountancy.

Degree Requirements—Accountancy

Bachelor of Science in Business Degree

The program in accountancy requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
Economics (counted in Business Core)
Area III: EC 204, 205
Area VI: College Component:
EC 290 or FIN 205

Business Core Requirements (see page 75) 79

Accountancy Major Requirements: 60
ACC 206 Accounting Systems and Internal Control
ACC 307 Intermediate Accounting I
ACC 308 Intermediate Accounting II
ACC 309 Advanced Accounting
ACC 323 Management Accounting
ACC 326 Accounting Systems Design and Implementation
ACC 343 Federal Income Tax I
ACC 423 Auditing
ACC 424 Managerial Accounting Advanced
ACC 444 Federal Income Tax II
FIN 311 Financial Management II
Business Electives 8
Non-Business Electives 8

Total 187

Scheduling, prerequisites, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Website at www.wright.edu/business.

Economics

Professors Blair, Fichtenbaum, Olson, Premus, Rena, Sav, Swaney (chair), Traynor
Associate Professors Dung, Hopkins, Osborne
Lecturer Endres

The field of economics covers a broad range of concerns, from practical questions about how a business can improve efficiency, to the more abstract study of the limits that nature imposes on human populations and natural resources. Economics aims at improving our welfare by understanding how
people make decisions when faced with relative scarcity and by studying the complex relationships among the production, consumption, and distribution of material goods.

The economics program equips students to pursue careers in business and government, or prepares them for graduate study in economics, business, or law. Our graduates have achieved success as executives in a wide variety of industries and are employed as professional economists in such diverse areas as urban economics, workforce and training analysis, business forecasting, school finance consulting, evaluating health and delivery systems, budget analysis, market consulting, government planning, banking, and statistical analysis. Some of our graduates continue their education in our master’s program in social and applied economics.

The program outlined here is designed to give our students both the background that will broaden their future options and the specific skills necessary to apply economic ideas. This includes the ability to express economic ideas clearly and concisely.

Departmental faculty advisors are available to all students who need advice about formulating and reaching career goals, as well as making decisions about elective courses.

Degree Requirements—Business Economics

Bachelor of Science in Business Degree

The program in economics requires a minimum of 187 credit hours. A minimum of 40 credit hours in economics is required.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
Mathematics (counted in Business Core)
Area III: EC 204, 205
Economics (counted in Business Core)
Area VI: College Component:
EC 290 or FIN 205

Business Core Requirements (see page 75) 79

Economics Major Requirements: 60
EC 301 Money and Banking 4
EC 315 Intermediate Microeconomics 4
EC 317 Intermediate Macroeconomics 4
EC 319 Institutional Economics 4
EC 409 Applied Econometrics 4

Economics Electives 20

Business Electives 8

Non-Business Electives 12

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall and on the Raj Soin College of Business Web site at www.wright.edu/business.

Economics Minor (see page 73)

Finance and Financial Services

Professors Ainina, Bacon (chair), Gressis, Larsen, Sweeney
Associate Professors Ahmad, Williams (associate dean)
Assistant Professor Akhbari
Instructor Wood

Two majors are available: finance and financial services. The finance major includes a core of courses that cover all aspects of the theory and practice of financial management. Financial management involves managing the financial affairs of businesses and other organizations. The curriculum includes courses in accounting, investments, financial planning and analysis, international finance, and managerial finance. A special sequence of courses has been designated for students interested in obtaining the CFM (Certified in Financial Management) designation. Among the many job opportunities open to the finance major are capital budgeting analyst, cash manager, credit analyst, financial analyst, loan officer, and financial manager.

The financial services major is designed to meet the growing need for people who are knowledgeable in all areas of personal financial management, including investments, insurance, tax planning, retirement planning, real estate, estate planning, and personal financial planning. Among the many career opportunities available to the financial services major are financial planner, stockbroker, insurance agent, real estate broker, loan officer, and trust officer. Students who complete the financial services major and the appropriate electives at Wright State are eligible to sit for the Certified Financial Planner exam.

Students with an interest in both finance and accounting may wish to consider a dual major in finance and accounting. Interested students should contact an academic advisor.
Degree Requirements—Finance

Bachelor of Science in Business Degree

The major in finance requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
  Mathematics (counted in Business Core)
Area III: EC 204, 205
  Economics (counted in Business Core)
Area VI: College Component:
  EC 290 or FIN 205

Business Core Requirements (see page 75) 79

Finance Major Requirements: 60

ACC 206 Accounting Systems and Internal Control 4
ACC 307 Intermediate Accounting I 4
ACC 308 Intermediate Accounting II 4
FIN 311 Financial Management II 4
FIN 401 Investing in Securities 4
FIN 411 Financial Planning and Analysis 4
FIN 490 International Financial Management 4

Finance Electives (see advisor) 12

Business Electives 12

Nonbusiness Electives 8

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at www.wright.edu/business.

Degree Requirements—Financial Services

Bachelor of Science in Business Degree

The major in financial services requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
  Mathematics (counted in Business Core)
Area III: EC 204, 205
  Economics (counted in Business Core)
Area VI: College Component:
  EC 290 or FIN 205

Business Core Requirements (see page 75) 79

Financial Services Major Requirements 60
FIN 315 Foundations of Financial Planning 4
FIN 311 Financial Management II 4
FIN 351 Risk and Insurance 4
FIN 401 Investing in Securities 4
FIN 461 Retirement Planning and Employee Benefits 4
FIN 462 Estate Planning 4
ACC 343 Federal Income Tax I 4

Financial Services Electives (see advisor) 12

Business Electives 12

Nonbusiness electives 8

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at www.wright.edu/business.

International Business

This major prepares students for careers in international business. The program has an applied learning orientation that includes foreign language courses and an internship in an area of international business. The degree is interdisciplinary, combining courses in culture, foreign language, and international business. A combination of international courses is taken in each functional area of business, including marketing, accountancy, finance, management, and economics.

The international business major should be selected by students who want a broad background and applied experiences for administrative careers that require competency in language, culture, and international business operations. In addition, the major provides a firm grounding in the management of organizational and institutional resources and in international issues.

Through the required internship, the major provides the opportunity to apply skills learned in the classroom to real life situations. The major also encourages study abroad opportunities to hone foreign language skills and international trade competencies.

Applied modern language courses are offered in Spanish, French, and German through the Department of Modern Languages.
Language Placement

Students with fewer than two years of a foreign language in high school or a grade of "C" or lower are advised to enroll in FR, GER, or SPN 101, 102, 103 for credit.

Students who have studied a foreign language for two or more years and received a grade of "B" or better may not take 100-level foreign language courses for credit; they must enroll in FR, GER, or SPN 201.

Degree Requirements—International Business

Bachelor of Science in Business Degree

The major in international business requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
  Mathematics (counted in Business Core)
Area III: EC 204, 205
  Economics (counted in Business Core)
Area VI: College Component:
  EC 290 or FIN 205

Business Core Requirements (see page 75) 79

International Business Major Requirements 60

MS 334 Global Operations Management 4
FIN 490 International Financial Management 4
MKT 421 International Marketing 4
MGT 485 International Management 4
ACC 454 International Accounting 4
IB 486 International Trade Management 4
IB 481 International Trade Internship
  or
IB 496 International Trade Consulting 4

Modern Language 201, 202, 203 12
FR 325, GER 325 or SPN 325—Business Language 4

Cultural Electives 16

Required: EC 435 Comparative Economic Systems 4
In addition: Choose three from List provided by department 12

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at www.wright.edu/business

International Business Minor
(see page 73)

International Trade Minor
(see page 73)

Management

Professors  Baker, Davy, Hartmann, Owen (chair), Petrick, Stickney (emeritus)
Associate Professors  Sincoff, Slonaker, Wendt
Assistant Professors  Dewett, Williams
Instructor  Crawford

Management is a universal process that applies to all career fields and to private, public, and nonprofit organizations. The curriculum offers two majors: the management major and the human resource management major.

The management major should be selected by students who want a broad background that prepares them for administrative careers in a wide range of settings. Course work is appropriate for individuals considering entry-level positions or management trainee programs. In addition, this major provides a firm grounding in the management of organizational, institutional resources, and international issues.

The human resource management major is intended for students who have chosen a career in human resource management. The field is recognized for its increasingly significant contribution to the success of all types of organizations. Graduates will typically qualify for entry-level positions in recruiting, testing, interviewing, compensation, benefits, training, affirmative action, and labor relations. Also, graduates will be prepared to take the Professional in Human Resources Certification Test.

Degree Requirements—Management

Bachelor of Science in Business Degree

The program in management requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
  Mathematics (counted in Business Core)
Area III: EC 204, 205
  Economics (counted in Business Core)
Area VI: College Component:
  EC 290 or FIN 205

Business Core Requirements (see page 75) 79
Management Major Requirements: 60

LAW 420 Legal Aspects of Managing a Diverse Workforce 4
MGT 321 Human Resource Management 4
MGT 410 Organizational Development 4
MGT 411 Leadership and Effective Teams 4
MGT 473 Managing Conflict in Business 4
MGT 485 International Management 4

Management Electives (see advisor) 12

Business electives 12

Nonbusiness electives 12

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at www.wright.edu/business.

Management Minor (see page 73)

Management Information Systems and Operations Management

Professors Sanders, Sethi (chair), Xu, Yen
Associate Professors Coleman, Polak, Weinstein
Assistant Professors Choi, Denison (chair), Graman, Wang
Lecturers Chesen, Lumpkin

Two majors are available: management information systems and operations management. The management information systems major trains students for careers in systems analysis, business systems design, and information technology management. The program strongly emphasizes business and organizational studies as well as information systems technology. Students in this program will study business systems analysis, business systems design, and computer programming. Other technical and business areas in the program focus on developing, implementing, and maintaining information systems in a variety of organizational settings. The program includes course work in information system design and development methodologies, database management systems, electronic business, and data communications. The program also covers business fundamentals in accounting, finance, marketing, management, and management science.

Degree Requirements—Management Information Systems

Bachelor of Science in Business Degree

Two majors are available: management information systems and operations management. The management information systems major trains students for careers in systems analysis, business systems design, and information technology management. The program strongly emphasizes business and organizational studies as well as information systems technology. Students in this program will study business systems analysis, business systems design, and computer programming. Other technical and business areas in the program focus on developing, implementing, and maintaining information systems in a variety of organizational settings. The program includes course work in information system design and development methodologies, database management systems, electronic business, and data communications. The program also covers business fundamentals in accounting, finance, marketing, management, and management science.

Degree Requirements—Management Information Systems

Bachelor of Science in Business Degree

Two majors are available: management information systems and operations management. The management information systems major trains students for careers in systems analysis, business systems design, and information technology management. The program strongly emphasizes business and organizational studies as well as information systems technology. Students in this program will study business systems analysis, business systems design, and computer programming. Other technical and business areas in the program focus on developing, implementing, and maintaining information systems in a variety of organizational settings. The program includes course work in information system design and development methodologies, database management systems, electronic business, and data communications. The program also covers business fundamentals in accounting, finance, marketing, management, and management science.

Degree Requirements—Management Information Systems

Bachelor of Science in Business Degree

Two majors are available: management information systems and operations management. The management information systems major trains students for careers in systems analysis, business systems design, and information technology management. The program strongly emphasizes business and organizational studies as well as information systems technology. Students in this program will study business systems analysis, business systems design, and computer programming. Other technical and business areas in the program focus on developing, implementing, and maintaining information systems in a variety of organizational settings. The program includes course work in information system design and development methodologies, database management systems, electronic business, and data communications. The program also covers business fundamentals in accounting, finance, marketing, management, and management science.
MIS Minor (see page 73)

Operations Management

Every organization, whether public or private, produces goods and/or delivers services to customers and clients. Effective management of these production and service operations is critical to the success of an organization. Operations professionals manage and coordinate activities to balance the needs of the consumer with the resources of the firm. For many firms these efforts increasingly extend beyond a single physical location, and require coordination among a global pipeline of suppliers and contractors. This requires an effective and efficient flow of both materials and information among all parts of the supply chain, with the overall goal of satisfying the ultimate consumer.

Once considered a strictly behind-the-scenes activity, operations management is now being recognized as an important strategic tool for creating customer value and loyalty. Companies such as Wal-Mart, Coca-Cola, and Nike attribute much of their success to the efficient management of their global supply chains.

Operations management majors study concepts and strategies that enable organizations to remain competitive in the world economy. They also study management tools and analytical techniques, such as forecasting, purchasing and logistics, inventory management, production scheduling, and quality manufacturing practices needed to achieve the goal of customer service.

Broadly speaking, the curriculum has three primary areas:

1) The study of basic problem solving and data analysis tools to assist the operations manager in making good decisions.
2) The study of the major concepts and strategies for managing people, materials, and production resources to deliver value to the customer.
3) The integration of the operations function into overall corporate strategy.

Degree Requirements—Operations Management

Bachelor of Science in Business Degree

The program in Operations Management requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
Mathematics (counted in Business Core)
Area III: EC 204, 205
Economics (counted in Business Core)
Area VI: College Component:
EC 290 or FIN 205

Business Core Requirements (see page 75) 79

Management Information Systems Major Requirements 60
MIS 215 Business Data Structures 4
MIS 305 Business Operating Systems 4
MIS 325 Analysis and Design of Information Systems 4
MIS 345 E-Business Strategy, Design, and Application 4
MIS 415 Business Database Systems 4
MIS 425 Business Networks and Telecommunications 4
MIS 450 Systems Development and Implementation 4
MIS 495 IS Project Management and Development 4
CS 208 Computer Programming for Business I 4
CS 209 Computer Programming for Business II 4
Management Information Systems elective 4
Business Electives 8
Nonbusiness Electives 8

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at www.wright.edu/business.
Operations Management Minor (see page 73)

Marketing

Professors: Khera, Saunders, (chair), Wise (Emeritus)
Associate Professors: Gulas, Ping
Assistant Professors: Gupta, Wamwara-Mbugua
Lecturer: Wick

The Marketing Program gives students a thorough grounding in the concepts and techniques needed to make marketing decisions in any organization. In addition to a survey course in principles of marketing, marketing majors study consumer behavior, international marketing, marketing analysis, and marketing strategy, and also must participate in major marketing projects at the senior level.

Marketing careers are far reaching as they touch on all components of the marketing mix—product, promotion, pricing, and channels of distribution. In turn, each of these areas offers dozens of specific job opportunities. For example, the promotional area includes careers in advertising, public relations, personal selling, and merchandising. Moreover, a single area, such as advertising, can offer more than two dozen special career orientations. There are rewarding career opportunities in virtually all fields of endeavor.

Other major employment tracks include retailing, marketing research, product management, personal selling, and strategic planning. Faculty advisors will discuss specific marketing career plans with students.

Degree Requirements—Marketing

Bachelor of Science in Business Degree

The Marketing Program requires a minimum of 187 credit hours.

General Education Requirements (see page 55) 48

Required Substitutions:
Area I: MTH 228
Mathematics (counted in Business Core)

Area III: EC 204, 205
Economics (counted in Business Core)

Area VI: College Component:
EC 290 or FIN 205

Business Core Requirements (see page 75) 79

Marketing Major Requirements 60
MKT 303 Consumer Behavior 4
MKT 421 International Marketing 4
MKT 451 Marketing Analysis 4
MKT 452 Marketing Strategy 4
MKT 492 Senior Projects in Marketing 4

Marketing Electives 16

Business electives 12

Nonbusiness electives 12

Total 187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at www.wright.edu/business.

Marketing Minor (see page 73)
EDUCATION AND HUMAN SERVICES
The College of Education and Human Services

The College of Education and Human Services assumes responsibility for one of the university’s primary functions: preparing teachers, educational leaders, and professionals in health, education, and human services. Many programs within the college lead to licensure by the Ohio Department of Education. The Departments of Educational Leadership, Teacher Education, Health and Physical Education, and Human Services prepare licensed and nonlicensed leaders for public and private schools, industry, and for community agencies. These leaders include public school teachers, principals, curriculum supervisors, central office administrative specialists, school guidance counselors, personnel counselors, rehabilitation specialists, community and mental health counselors, and student affairs (higher education) practitioners.

The Bachelor of Science in Education degree and the Bachelor of Science degree with majors in rehabilitation and organizational leadership are offered. The college also offers programs leading to the Master of Arts, Master of Education, Master of Rehabilitation Counseling, Master of Science, and Educational Specialist degrees.

Throughout its history, the college has maintained a close working relationship with the public schools and community agencies in the region. Frequent involvement of the College of Education and Human Services faculty in the schools and agencies of the area, and the advice and planning assistance of public school and agency personnel, serve to improve the college’s programs, the programs of community schools, and the services of community agencies.

Note:
The Wright State University Report on the Quality of Teacher Preparation for Academic Year 2001-2002 can be found on page 385 in the Appendix. Current and future reports are also available from the Web site www.wright.edu/policies/passrates/

Accreditations

The College of Education and Human Services meets the standards of, and has been approved by, the Ohio State Board of Education, and is a member of the American Association of Colleges for Teacher Education. The college’s teacher education programs are accredited by the National Council for
Accreditation of Teacher Education (NCATE). The college’s community and school counseling programs are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), and the Rehabilitation Counseling programs carry the Council on Rehabilitation Education (CORE) accreditation.

Admissions, Retention, and Advising

The College of Education and Human Services follows the principle, supported by the Ohio Laws and Regulations of the State Board of Education and the accrediting agencies cited above, that the college has the right and obligation to consider personal factors, as well as academic achievement, as a basis for admitting and retaining a student in its professional programs. While academic performance is a major determinant of effective performance in a profession, it is not the only one. Because there are also skills, understanding, and personal characteristics unique to a particular profession (such as teaching and rehabilitation services), students seeking admission to the college’s programs must meet requirements in addition to those generally prescribed for enrollment in the university.

Prospective majors should see an advisor in the college for current admissions requirements. Information is available in the college’s Student Services office.

Teacher Education Admissions Policies

To be considered for admission to the College of Education and Human Services Teacher Education programs in Integrated Business Education, Marketing Education, Vocational Education, Early Childhood Education, and Health and Physical Education, students must meet the requirements listed below. (For admissions policies for Music Education, see the College of Liberal Arts.)

1. completed at least 45 academic credit hours,
2. attained at least a 2.5 cumulative GPA,
3. achieved a required score on each section of the Praxis I Test, and
4. submitted a completed CEHS Teacher Education Program Application packet which includes:
   a. evidence of GPA and Praxis I score,
   b. a self-assessment statement which includes the applicant’s career goals, and a signed character statement,
   c. two letters of recommendation. Licensure applicants will need at least one letter from a faculty member.
   d. a writing sample of 250–500 words.
5. completed an interview.

Meeting these requirements does not guarantee admission to the Teacher Education Program. A student is officially admitted to the College of Education and Human Services program at the professional discretion of the faculty and staff.

All applicants for initial licensure must meet these admission requirements. All requirements are subject to NCATE and Ohio Department of Education (ODE) regulations. Application forms may be obtained from the College of Education and Human Services Student Services Website at http://www.ed.wright.edu/ss

Middle Childhood Education (without licensure) Admissions Policy

To be considered for admission to the College of Education and Human Services Middle Childhood Education Program, students must have:
1. completed at least 45 academic credit hours,
2. attained at least a 2.5 cumulative GPA,
3. submitted the statement of Good Moral Character and Declaration of Middle Childhood Subject Area Concentration Area form (available from any college advisor.)

Rehabilitation Services Admissions Policy

To be considered for admission to the College of Education and Human Services Rehabilitation Services Program must have:
1. completed at least 24 academic credit hours,
2. attained at least a 2.35 cumulative GPA,
3. complete an IntraUniversity Undergraduate Transfer Application.

A student is officially admitted to the College of Education and Human Services, rehabilitation services major, when these items are completed. Upon completion of the items, the student will receive a course of study from the college’s Office of Student Services.
Note: the admission policy for a rehabilitation services minor is the same as for a rehabilitation services major. Students are advised to complete an interuniversity undergraduate minor declaration form, bring the form to college's Office of Student Services and then the student will receive a course of study from the college's Office of Student Services.

Organizational Leadership Admissions Policy

To be considered for admission to the College of Education and Human Services Organizational Leadership Program, applicants must meet the requirements below:

1. A completed associate's degree or equivalent (90 quarter hours)
2. Cumulative GPA of 2.0 or higher.
3. Completed prerequisites (two of three):
   ACC 204 Accounting Principles I
   EC 204 Principles of Microeconomics
   TMK 204 Technical Marketing (available on at Lake Campus)

Vocational Teacher Licensure

Individuals interested in obtaining initial vocational teacher licensure and endorsements are encouraged to contact the Workforce Teacher Education Center in 490 Allyn Hall, (937) 775-3598 to begin the process of admission and advising.

Transfer Students

Students transferring to Wright State University from other institutions or from other colleges of Wright State University must meet the same standards for admission in teacher education program in the College of Education and Human Services detailed above, including the 2.5 GPA (earned at Wright State University), the completion of 45 credit hours (or equivalent) of college credit, and required scores on the PRAXIS I Exam for teacher education. Rehabilitation services majors need a 2.35 GPA and 24 credit hours completed. Organizational Leadership students need an Associate degree or equivalent (90 quarter hours) and a 2.0 GPA.

Office of Professional Field Experiences

All of the College of Education and Human Services licensure programs include rich practicum experiences. The placement of these practicums occurs in the Office of Professional Field Experiences (OPFE), located in 378 Allyn Hall. Practicums are infused in the teacher licensure programs. To sign-up for a practicum experience, students must fill out the practicum application on-line at 'www.ed.wright.edu/pte'. Students must also attend the appropriate information sessions and/or orientation meetings; information regarding these meetings is detailed at the above Web site. The on-line application must be submitted 30 days prior to the end of the previous term that the practicum is requested (summer term excluded).

For example, for practicum requested for spring term, the on-line application must be received 30 days before the end of winter term; if practicum is requested for fall term, the on-line application must be received 30 days before the end of spring term.

The OPFE makes arrangements with local school districts within a 30 mile radius of Wright State University. Since the OPFE places over 600 student each term, school administrators have requested that our students do not contact these schools directly for a placement. It is imperative that all contacts for a practicum originate in the OPFE.

Advising

The main purpose of advising is to assist students in the development of meaningful educational plans that are compatible with their life goals. Advising is a continuous process of clarification and evaluation.

The ultimate responsibility for making decisions about life goals and educational plans rests with the individual student. Advisors assist by helping identify and assess alternatives and consequences of decisions.

Upon admission to the College of Education and Human Services, each student is assigned two advisors: a faculty advisor and a teacher licensure advisor. (Our teacher licensure advisors work with all of our undergraduate students, not just those enrolled in a teacher education program.)

Your faculty advisor can:

- assist you with decisions relating to your career choices;
- assist you with other issues relating to professional development and ethics;
- determine appropriateness of course substitutions or program changes in concert with a licensure advisor;
- interpret institutional requirements;
- increase your awareness of educational resources available;
- evaluate your progress toward your professional goals;
- facilitate the development of decision-making skills;
• reinforce the need for student self-direction;
• refer you to other institutional and community support services where appropriate.

Your teacher licensure advisor can:
• prepare an individual program of study for your degree program (a check sheet), including our college's Rehabilitation Services program and Organizational Leadership program;
• assist you in choosing the proper courses to prepare you for your future vocation, and for those in a teacher licensure program to meet state licensure requirements;
• help you determine the best sequence for the courses you should take for the purpose of licensure and graduation;
• help you choose the best program possible by discussing special problems with you;
• answer questions about university or licensure requirements;
• consult with you about course substitutions or program changes;
• provide clearance and approval services for new students entering programs, seek an initial field placement or practicum, approve student teaching applications, and approve graduation applications;
• provide a "senior check" for students who have approximately 70 hours remaining to be completed.

Because of the sequential nature of many courses and the prerequisites needed in both professional and academic components of the degree programs, students are strongly encouraged to consult an advisor before registering. Any deviation from the specified curriculum should be discussed in detail with an advisor. The college provides undergraduate guidebooks for the Rehabilitation Services and teacher education programs. These guidebooks should be studied carefully and kept with all academic records.

Accessing an Advisor

Students seeking their faculty advisor should visit during the faculty person's posted office hours and/or by appointment. Information regarding faculty advisor assignment location and office hours can be obtained from the college's Office of Student Services, 378 Allyn Hall.

Students wishing to consult with their teacher licensure advisor including Rehabilitation Services and Organizational Leadership may do so during open advising sessions. Students are assigned an individual licensure advisor, however students may consult with any licensure advisor that is available at the time of their visit. Visit the college's Office of Student Services Web site at http://www.ed.wright.edu/ss to view the current walk-in advising dates and times, or visit the office in 378 Allyn Hall. Students who are unable to see a licensure advisor during the posted walk-in advising times may arrange for an advising appointment. Call (937) 775-3088 for appointment times or visit the office.

Retention

To increase their likelihood of success, students in professional degree programs must meet certain criteria, at various stages in the program, to earn recommendation for licensure and graduation. These criteria reflect academic standards and show that the student can effectively perform responsibilities that include the ability to provide for students' safety; effectively communicate with students verbally and in writing; provide a stable, supportive environment that will promote student growth; and manage the instructional program for individuals and for small and large groups.

Faculty members, on the basis of their knowledge of students and their professional observations, evaluate students' progress in meeting these criteria and decide on whether to retain and recommend students for teacher licensure and graduation.

Students in rehabilitation services should meet with their faculty advisor throughout their course of study to discuss their career goals and future as a rehabilitation services provider.

Athletic Training

The athletic training program leads to a Bachelor of Science in Education (B.S.Ed.) degree with or without teaching certification and is designed to meet students' individual needs. The certified athletic trainer is increasingly viewed as the expert in care of the physically active. Therefore, Wright State's program prepares self-directed graduates who can function in a number of settings and work in collaboration with other health care professionals to coordinate and improve the health care of the physically active.

The athletic training program at Wright State is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Graduates of the program will also be eligible for the National Athletic Trainers Association's certification examination and to apply for Ohio licensure from the Ohio OT/PT/AT Board.
Athletic Training

Admissions and Advising

The baccalaureate program in athletic training is a major within the Department of Health and Physical Education and in the College of Education and Human Services. Admission to Wright State University does not guarantee admission to the Athletic Training program.

In order to become eligible to apply for admission to the Athletic Training program, students should be accepted as degree-seeking students at Wright State University, complete all designated prerequisites courses with a combined 2.5 GPA, and have at least a 2.5 cumulative GPA. Due to the large number of applicants, admission will be competitively based upon cumulative GPA, performance on competencies, completion of field experiences, and overall quality of work performed. The number of students admitted is determined by the availability of resources such as field experience sites and the number of faculty/clinical instructors. All students must submit an admissions application to the athletic training program by March 1 of each year. A signed copy of the Explanation of Technical Standards form should also be returned with the application.

All students must fulfill current health requirements, including immunizations (i.e. Hepatitis B) and an annual physical examination. The exam must certify that the student is in good health and able to actively participate in clinical and field experiences. Proof of a current physical and immunizations must be submitted at the time of application. Faculty may request a student’s reexamination if limitations interfere with the student’s clinical practice or learning.

In addition, all students working offsite are required to purchase liability (malpractice) insurance in the amount specified by the athletic training program. Applications are available in the athletic training office.

Students must provide their own transportation to offsite field experiences.

Pre-Athletic Training Program

(Fall, Year 1)

All students interested in athletic training must complete the following application process.

The following information is to be mailed to the education coordinator and postmarked on or before March 1:

1. Completed application form.
2. Three (3) typed letters of recommendation indicating the applicant’s human relation skills and academic potential. One letter should be from a former/current teacher, one letter from an employer or administrator, and one letter from a certified athletic trainer or coach.
3. Typed statement of 250 words or less describing life experiences the applicant brings to the athletic training program.
4. Unofficial high school and college (if applicable) transcripts.
5. Physical examination.
6. Medical history form including HBV records.

Applications will be reviewed by the staff, interviews will be conducted with qualified individuals, and students admitted into the pre-athletic training program will be notified by April 15. The requirements for the pre-athletic training program are as follows:

1. Enrolled in ATR 261 and ATR 284.
2. Completion of ATR 261 and ATR 284 with an average grade of “B” or better.
3. Above average evaluations (minimum of a 2.5 average score on Personal Development Evaluations) in field experiences by clinical faculty.
4. If necessary, interview with staff athletic trainers.

Athletic Training Program,

Level I (Winter/Spring, Year 1)

Enrollment in the following courses:

1. Winter: ATR 262, ATR 286, and HPR 250
2. Spring: ATR 360, ATR 386, and HPR 251

Athletic Training Program,

Level II (Year 2)

To progress to Level II, students must have met the following requirements:

1. Complete 45 quarter hours,
2. Maintain a cumulative GPA of 2.5 or higher.
3. Complete first year course work with an average grade of “B” or better (i.e. ATR 261, ATR 284, ATR 262, ATR 286, ATR 360, ATR 386, HPR 250, HPR 251),
4. Admission to the College of Education and Human Services and, if applicable, the teacher education program by the established deadline.

To remain in good standing in the athletic training program (Levels III and IV), the student must maintain a cumulative GPA of 2.5. In addition, the student must demonstrate commitment to the program and competence in athletic training knowledge and practical skills.

Technology Policy

All College of Education and Human Services students, graduate and undergraduate, part-time and full-time, will be expected to certify that they own or have access to a computer and the Internet for admission to the college.

In order to meet the mission of the college “…to prepare professionals to meet the educational and human services needs of a diverse, democratic society,” it is necessary for our students to play an active role in the technological environment the college and Wright State University are creating to assist in the completion of this mission. An increasing number of classes and options will become available to students using a variety of distributed learning formats; library resources are available in a growing number of full-text formats; and global connections via telecommunications will be part of daily operations. Students preparing to become professionals in education and human service areas must demonstrate appropriate and effective skills and knowledge in technological aspects of their work.

Minimum equipment standards will be either a Power Macintosh or Pentium-based Personal Computer (PC). The college supports Macintosh computers in faculty and staff offices and maintains computer labs. Wright State University has purchased a site license for most Microsoft software (see the Web site for Wright State’s Computing and Telecommunications Services, http://www.cats.wright.edu/, for details). The college’s standard software packages are currently Office 2001 (Word, Excel, Powerpoint), FileMaker Pro, and Netscape; the specific packages, however, are subject to change.

Degrees and Areas of Study

Please review the teacher education content preparation programs in the College of Science and Mathematics and the College of Liberal Arts. Many teaching areas require a bachelor’s degree in the content area, with teacher preparation being provided on the graduate level within a master’s degree program. Examples include: Mathematics Education, Science Education (Biology, Chemistry, Physics, etc.), Modern Languages (French and Spanish), Social Studies, English, Art, etc.

The college offers curricula leading to the Bachelor of Science in Education degree in selected teaching fields and for selected age levels and/or recommendation for Ohio teacher licensure in the fields listed below. Teacher licensure in Ohio also requires passing scores on examinations mandated by the state’s Department of Education.

The teacher preparation programs meet the state of Ohio Standards for Colleges and Universities for preparing teachers. One of the requirements mandated by these standards is the completion of a minimum of 300 practica experience hours prior to student teaching. Full-day and/or half-day practica are required throughout Phase I and Phase II of the Early Childhood program, Multi-age Health and Physical Education program, and in Phase I (the undergraduate portion) of the Middle Childhood program and the Adolescent to Young Adult programs.

Early Childhood Education—Grades Pre-K–3, ages 0–8, Pre-K–3 Program (B.S.Ed.)

Middle Childhood—Grades 4–9, ages 8–14 (B.S. Ed.) (graduate program required for licensure)

Multi-Age—Grades K–12

Language (French, Spanish) (graduate program required for licensure) (see College of Liberal Arts)
Music Education (see College of Liberal Arts)
Health and Physical Education (B.S.Ed.)
Visual Arts (graduate program required for licensure) (see College of Liberal Arts)

Adolescent to Young Adult—Grades 7–12, ages 12–21

Sciences, English, Social Studies, Mathematics (see College of Liberal Arts and College of Science and Mathematics) (graduate program required for licensure)

Vocational

Ages 8 and Beyond—Grades 4 and Beyond Vocational Education (B.S.Ed.)
Marketing Education (B.S.Ed.)
Integrated Business Education (B.S.Ed.)

Rehabilitation Services

(B.S. Rehabilitation Services)

The College of Education and Human Services offers a four-year curriculum leading to a Bachelor of Science degree with a major in rehabilitation
services. This program prepares students to work with people who have disabilities, are in the penal system, abuse substances, or people under the auspices of the human services system.

Organizational Leadership
(B.S. Organizational Leadership)
This new B.S. degree completion program is a management-focused, multidisciplinary, application-oriented major. It is designed for students with a two-year degree or its equivalent who want a broad academic background to prepare them for supervisory and management careers. The major combines courses in communication and management skills with the study of leadership theory and practice. Students will also learn problem-solving techniques and complete a leadership skill project. This integrated major prepares today's and tomorrow's leaders for the challenges across all career fields.

Endorsement/Validation of Standard Teaching Licenses
Curricula are available to validate standard teaching licenses in the following areas:
• Adapted Physical Education
• Adult Education—Full Time
• OWE/OWA
• Early Education of the Handicapped
• Pre-Kindergarten
• Reading
• Teaching English to Speakers of Other Languages (TESOL)
• Transition-to-Work (graduate level only)
• Work-Site Teacher/Coordinator

Transition to Work Endorsement
(available only on the graduate level)
This endorsement is offered through the College of Education and Human Services for individuals who want to work as school vocational evaluators, vocational special education coordinators (VOSEs), job training coordinators (JTCs), or work study coordinators. Students desiring to obtain a Transition To Work (TTW) Endorsement must hold either a vocational or intervention specialist license prior to participating in the TTW course work. Students desiring more information should call (937) 775-3270.

Degree Requirements
Students completing the teacher preparatory program in early childhood, integrated business education, marketing education, and health and physical education earn the Bachelor of Science

in Education degree. Students in the teacher preparatory program in middle childhood earn the Bachelor of Science in Education degree upon completion of two teaching field concentrations and Phase I of the professional concentration, and Phases II and III of the professional concentration which must be taken at the graduate level. Please see the sample graduate program:

Sample Graduate Program of Study
Classroom Teacher: Middle Childhood
ED 600 Classroom Management: Middle Childhood Level 3
ED 602* Education in a Pluralistic Society: Middle Childhood Perspective 3
ED 606 Reading and Literacy Instruction I: Middle Childhood Level 4.5
ED 607 Reading and Literacy Instruction II: Middle Childhood Level 4.5
ED 612 Practicum I: Middle Childhood Level 1
ED 614 Practicum II: Middle Childhood Level 1
ED 616 Practicum III: Middle Childhood Level 1
ED 621* Human Development and Learning: Middle Childhood Perspective 4
ED 622 Technological Instruction and Integrated Methods: Middle Level 3
ED 641 Internship/Seminar: Middle Childhood Level (Student Teaching) 12
ED 645 Inquiry and Assessment: Middle Childhood Level 3
ED 709 Diagnosis and Assessment of Reading Performance 4.5
ED 717 Word Study: Phonics Middle Level 4.5
ED 732 Principles and Practices of Middle Schools 3
EDS 624* Addressing Learning Differences 4
Methods courses specific to the Program of Study (see below) 6
Total 63

Methods Courses: Choose Two
ED 610 Middle Childhood Mathematics: Philosophy and Curriculum 3
ED 624 Middle Childhood Literature, Speech, and Drama 3
ED 629 Middle School Social Studies Methods 3
ED 636 Integrated Middle Childhood Level Science Methods 3
Total 6

Option 1
To complete licensure, 63 graduate hours are required (only 51 graduate hours if Phase I* course work is not needed).

Option 2
To complete the M.Ed. the following graduate courses are required, for a total of 67 graduate hours (only 55 graduate hours if Phase I* courses are not needed):
General Degree Requirements

1. Completion of a minimum of 183 credit hours
2. Fulfillment of university General Education requirements
3. An overall cumulative GPA of 2.5 or higher for teacher education, 2.35 for rehabilitation services, 2.0 for organizational leadership, and 2.0 for middle childhood education

Specific Requirements

**Early Childhood (Pre-K–3, Ages 0–8)**
This program leads to licensure in Early Childhood Education for Pre-K to third grades (3–8 year olds).

1. General requirements listed previously
2. Of the 191.5 credit hours required for graduation, a minimum of 87.5–89.5 quarter hours in professional education courses
3. Completion of prescribed pattern of courses

**Middle Childhood (Grades 4–9, Ages 8–14)**
This program does not result in state licensure at this level, additional graduate work is required.

1. General requirements listed previously
2. Of the 188 hours required for graduation, a minimum of 15 quarter hours in professional education

**Rehabilitation Services**

1. General requirements listed previously
2. Completion of a minimum of 192 credit hours
3. Completion of prescribed pattern of courses

**Organizational Leadership**

1. General requirements listed previously
2. Completion of a minimum of 193 credit hours
3. Completion of prescribed pattern of courses

**Health Education and Physical Education (Grades Pre-K–12, Ages 3–21)**

1. General requirements listed previously
2. Completion of a minimum of 189 credit hours
3. Completion of prescribed pattern of courses

Marketing Education (Grades 4 and beyond, Ages 8 and beyond)

1. General requirements listed previously
2. Completion of a minimum of 186 credit hours
3. Completion of prescribed pattern of courses

**Integrated Business Education**

1. General requirements listed previously
2. Completion of a minimum of 202 credit hours
3. Completion of prescribed pattern of courses

**Vocational Education**

1. General requirements listed previously
2. Completion of a minimum of 185 credit hours
3. Completion of prescribed pattern of courses

Honors Program

Outstanding students enrolled in programs in the College of Education and Human Services have an opportunity to complete the University Honors Program or an honors program in education. This program provides students with expanded opportunities for creativity, self-direction, and excellence through special honors courses and an extended period of independent study.

Junior- or senior-level students enrolled in the College of Education and Human Services major are eligible for the honors program if they have maintained a 3.0 overall cumulative GPA, a 3.0 cumulative average in professional education, and have been recommended by a faculty member from the program area in which they plan to work.

Students interested in pursuing an honors program should consult their faculty advisor.

Recommendation for Licensure

Every teacher in Ohio public schools is required to be licensed in the field or fields in which he or she is teaching. This license is issued by the Ohio Department of Education upon the recommendation of the College of Education and Human Services. Students may apply for licensure in the College of Education and Human Services Office of Student Services during the last quarter of their professional undergraduate programs. (Note: Many programs require graduate level study for licensure.)

A candidate for teaching licensure at Wright State University must be deemed to be of good moral character, have successfully completed the approved program of teacher preparation, obtained
passing scores on the Praxis II exam, and be recommended by the dean of the College of Education and Human Services. Finger printing and a background check are also required for all applicants to receive an initial license.

"Good moral character" is defined as not having pleaded guilty to or not having been convicted of any felony, any violation of Section 2907.04 (Corruption of a Minor), Section 2907.06 (Sexual Imposition), or Division (A) or (C) of Section 2907.07 (Importuning) of the Revised Code, any offense of violence, theft offense, or drug abuse offense that is not a minor misdemeanor, or any substantively comparable ordinance of a municipal corporation or of another state. An individual who has pleaded guilty to or has been convicted of any such offense may have an application for licensure considered by the State Board of Education, provided the individual meets the conditions specified in rule 3301-23-23 of the Administrative Code.

Licensure of Students From Other Colleges Within the University

Students who receive degrees from other colleges within the university may also wish to obtain teaching licenses. They are subject to the same admissions requirements as described on pages 85 and 86. Recommendation for licensure will occur only after a student satisfactorily completes all of the requirements of the College of Education and Human Services. These include admission, selective retention, the major teaching field and related requirements, the preprofessional and Phase I professional courses, completion of professional courses at the graduate level, and a passing score on the Praxis II exam(s).

Licensure for Holders of Nonprofessional Degrees

Students who are graduates of other accredited colleges or universities are subject to the same requirements as described on pages 85 and 86.

School Nurse Licensure Program

The School Nurse Licensure program is offered as a graduate program. The 22-credit, graduate-level program leads to endorsement for licensure as a school nurse in the state of Ohio.

Prerequisites:

1. Baccalaureate degree with course work in growth and development, psychology, sociology, and/or anthropology.
2. License to practice professional nursing in the state of Ohio.
3. Course work in community health.

For more information, refer to the College of Nursing and Health (937) 775-3131 or the Department of Health, Physical Education, and Recreation (937) 775-3223.

Student Organizations

The following organizations are available to students of the College of Education and Human Services:

- African American Teachers Association provides a forum for students, faculty, and staff who are interested in the teaching profession and provides support, information, and community outreach.
- Business Professionals of America is a national student organization composed of state association and local chapters serving persons pursuing careers in business and office occupations. This organization provides the opportunity for the development of leadership skills, personal and professional growth, and career-related competencies.
- The Collegiate Middle Childhood Association provides a forum for undergraduate and graduate students who are interested in the middle school student and the professional issues and activities of the middle childhood teacher.
- Graduate students majoring in one of the college’s counseling programs can be invited to join Chi Sigma’s Iota: an international honors society for the counseling professional.
- Kappa Delta Pi is an international honor society in education. Individuals are invited to become members of the society, by vote of the chapter, because of high academic achievement and because they have exhibited a professional attitude indicating their ability to grow in the field of education.
- The Wright State University Rehabilitation Club provides rehabilitation majors and minors with opportunities to develop contacts with rehabilitation professionals, participate in professional conferences and service projects, and interact with peers on a social level.
Students Council for Exceptional Children (SCEC), an affiliate of the International Council for Exceptional Children, is an organization for people interested in service for the exceptional learners, including rehabilitation counselors and special education teachers.

Programs of Study

Athletic Training

The athletic training program leads to a Bachelor of Science in Education (B.S.Ed.) degree with or without teaching certification and is designed to meet students’ individual needs.

The certified athletic trainer is increasingly viewed as the expert in care of the physically active. Therefore, Wright State’s program prepares self-directed graduates who can function in a number of settings and work in collaboration with other health care professionals to coordinate and improve the health care of the physically active.

Degree Requirements— Athletic Training Without Teaching

See General Education Requirements page 55

General Education

| Area 1: | 12 |
| Area 2: | 8 |
| Area 3: | 8 |
| Area 4: | 12 |
| Area 5: BIO 107 required; HPR 250, HPR 251 substituted for Natural Sciences | 12 |
| Area 6: ED 210 | 4 |

Curriculum Content

| ATR 261 |
| HED 230, 330, 431, 432 |
| HPR 211, 212, 353, 354, 355, 362, 481 |
| RHB 305 |

Professional Education

| ANT 201, 202 |
| ATR 262, 284, 285, 286, 303, 360, 361, 384, 385, 386, 460, 461, 484, 485, 486, 487 |

Activity Skill Requirements

| Team: |
| HPR 200 Teaching Basketball (3 required) |
| HPR 200 Teaching Soccer |
| HPR 200 Teaching Softball or Baseball |
| HPR 200 Teaching Volleyball |

Degree Requirements— Athletic Training With Teaching

See General Education Requirements page 55

General Education

| Area 1: | 12 |
| Area 2: | 8 |
| Area 3: | 8 |
| Area 4: | 12 |
| Area 5: BIO 107 required; HPR 250, HPR 251 substituted for Natural Sciences | 12 |
| Area 6: ED 210 | 4 |

Curriculum Content

| ATR 261 |
| HED 230, 330, 331, 431, 432 |
| HPR 211, 212, 214, 241, 281, 353, 354, 355, 362, 410, 460, 481 |
| RHB 305 |

Professional Education

| ED 221, 301, 303, 321, 429, 432, 440 |
| HED 382 |
| HPR 381 |

Activity Skill Requirements

| Team: |
| HPR 200 Teaching Basketball (3 required) |
| HPR 200 Teaching Soccer |
| HPR 200 Teaching Softball or Baseball |
| HPR 200 Teaching Volleyball |
| Individual: |
| HPR 200 Teaching Golf (2 required) |
| HPR 200 Teaching Tennis |
### Biological Sciences Education

See Biological Science Education programs in the College of Science and Mathematics.

### Business Education: Integrated

The Integrated Business Education Comprehensive Licensure program leads to the Bachelor of Science in Education degree and state licensure. The program is designed to prepare outstanding teaching professionals in business education by offering a balanced program combining general education, professional education, and business content. The provisional vocational license in business education in Ohio is valid for teaching business subjects to learners ages eight and beyond and grades four and beyond.

**Degree Requirements—Integrated Business Education**

**Bachelor of Science in Education Degree**

### Chemistry Education

See Life Sciences/Chemistry and Earth Sciences/Chemistry Education programs in the College of Science and Mathematics.

### Early Childhood Education

**Pre-K–3 Program**

The Pre-K–3 licensure program prepares students to teach children three years of age through grade three. The Pre-K–3 license qualifies a graduate for employment in daycare, nursery school, headstart, public and private preschools, and

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<td>CEG 210</td>
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<td>CS 141, 142, 205, 214</td>
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<td>EC 204, 205</td>
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<td>ENG 330</td>
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<td>LAW 200</td>
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<td>MTH 127</td>
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<td>MGT 304</td>
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<td>MKT 300, 303</td>
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Choice of One: MKT 336, 421, 447

| VOE 401, 406, 421, 431 | | |

### Total Credits 202

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'These courses are to be taken at Sinclair, Clark, Edison or another approved two-year institution.

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.
primary (K-3) elementary grades. Students will be required to work with children from birth through third grade in Phases I, II, and III. The program requires courses in general education, professional education, and content curriculum.

Degree Requirements—Early Childhood Education (Pre-K–3, Ages 3–8)

See General Education Requirements page 55

General Education 57.5

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<tr>
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<td>Area 5:</td>
<td>BIO 345*, CHM 245*, PHY 245*</td>
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Curriculum Content 46.5

AED 431
COM 103
EDT 280
GEO 201, 202, or 203
GL 345*
HED 331
HPR 281
HST 211 and 212
MTH 243 and 244
MUS 365
SM 145

Professional Education 87.5–89.5

ED 311, 315, 316, 317, 327, 407, 411, 415, 417
EDS 459

Total 191.5

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.*Satisfies General Education Science requirements.

Earth Science Education

See Geological Sciences Education and Physics Education in the College of Science and Mathematics.

English Education

See Integrated Language Arts/English Education in the College of Liberal Arts.

General Science Education

See Integrated Science Education in the College of Science and Mathematics.

Health Education and Physical Education Multi-Age

Degree Requirements—Health Education and Physical Education (Multi-Age, Pre-K–12, Ages 3–21)

Bachelor of Science in Education Degree

See General Education Requirements page 55

General Education 56

<table>
<thead>
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<td>Area 1:</td>
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<td>Area 4:</td>
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<tr>
<td>Area 5:</td>
<td>BIO 107, HPR 250, HPR 251</td>
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<tr>
<td>Area 6:</td>
<td>ED 210</td>
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Curriculum Content 75

ATR 261
HED 230, 330, 331, 431, 432
HPR 211, 212, 214, 241, 260, 281, 340, 353, 354, 355, 362, 410, 460, 481
RHB 305

Professional Education 36–38

ED 221*, 301, 303, 321*, 429*, 432, 440
HPR 381
HED 382

Activity Skill Requirements 16

Team:
HPR 200 Teaching Basketball (3 required)
HPR 200 Teaching Soccer
HPR 200 Teaching Softball or Baseball
HPR 200 Teaching Volleyball

Individual:
HPR 200 Teaching Golf (2 required)
HPR 200 Teaching Tennis

Fitness:
HPR 200 Teaching Exercise and Health Related Fitness (1 required)
Dance and Rhythms:
HPR 200 Teaching Dance and Rhythms (1 required)
Leisure:
HPR 200 Teaching Lifelong Leisure Activities (1 required)

A minimum of six HPR 200 courses must be completed prior to student teaching.

Technology/Communication

COM 101
EDT 280 6

Approved Electives 0–3

Total 189

*Field and clinical experiences required for health education and physical education licensure.

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.

Optional Endorsement

Adapted Physical Education (APE) Endorsement

EDS 444, 459; HPR 213, 284, 312, 384, 484

Formal application is required for admission to the APE endorsement program. Please visit the Department of Health, Physical Education and Recreation Web site at http://www.chem.wright.edu/departments/hpr/ for application materials. In addition to course work, successful completion of the Adapted Physical National Certification Examination is required to be a program completer.

History Education

See Social Science Education in the College of Liberal Arts.

Marketing Education

The Marketing Education program leads to the Bachelor of Science in Education degree and state licensure. The program is designed to prepare outstanding teaching professionals in marketing education by offering a balanced program combining general education, professional education, and marketing content. The provisional vocational license in marketing education in Ohio is valid for teaching marketing subjects to learners ages eight and beyond and grades four and beyond.

Degree Requirements—Marketing Education

Bachelor of Science in Education Degree

See General Education Requirements page 55

General Education

Area 1: 12
Area 2: 8
Area 3: EC 204 & 205 4
Area 4: 12
Area 5: 12
Area 6: ED 210 4

Curriculum Content 99–93

ACC 204, 205
CS 205
EC 204, 205
EDT 211, 212*, 305*, 306*, 433, 445
ENG 330
LAW 300
MGT 304
MKT 300, 303
Choice of Five: MKT 325, 366, 421, 446, 461, 447
VOE 401, 406, 421, 431

Professional Education 44–46

COM 101
ED 221, 301, 303, 223, 321, 323, 327, 429, 432, 440
EDS 333
EDT 280

Total 186

*These courses are to be taken at Sinclair, Clark, Edison or another approved two-year institution.

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.

Mathematics Education

See Mathematics Education program in the College of Science and Mathematics.
Modern Languages Education

See Modern Languages in the College of Liberal Arts.

Middle Childhood Education

Pre-Professional Program Middle Childhood B.S.Ed. degree without licensure

Degree Requirements—Middle Childhood Education Grades 4–9

See General Education Requirements page 55

General Education

<table>
<thead>
<tr>
<th>Area</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: MTH 143</td>
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</tr>
<tr>
<td>2: HST 101, 102, CST 231</td>
<td>8</td>
</tr>
<tr>
<td>3:</td>
<td>8</td>
</tr>
<tr>
<td>4: ENG 204</td>
<td>12</td>
</tr>
<tr>
<td>5: BIO 345, CHM 246, PHY 246</td>
<td>13.5</td>
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<tr>
<td>6: ED 210</td>
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</tr>
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</table>

Curriculum Content 66.5

Choose Two of Four Concentrations

English/Language Arts:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 365</td>
<td></td>
</tr>
<tr>
<td>ENG 483 or 485; 205, 346; 343, 345, or 480</td>
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</tr>
</tbody>
</table>

Organizational Leadership

New Bachelor of Science degree completion program in a leadership-focused, multidisciplinary, application-oriented major. Designed for students with a two-year degree or its equivalent who want a broad academic background to prepare them for supervisory and management careers. The major combines courses in communication and management skills with the study of leadership theory and practice. Students will also learn problem-solving techniques and complete a leadership skills project. This integrated major prepares today’s and tomorrow’s leaders for challenges across all career fields.
Degree Requirements—Organizational Leadership
Bachelor of Science Degree

See General Education Requirements page 55

<table>
<thead>
<tr>
<th>General Education</th>
<th>56</th>
</tr>
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<tbody>
<tr>
<td>Area 1:</td>
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<td>Area 2:</td>
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<td>Area 3:</td>
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<tr>
<td>Area 4:</td>
<td>12</td>
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<tr>
<td>Area 5:</td>
<td>12</td>
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<tr>
<td>Area 6: Choose One: CNL 210</td>
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</table>

Curriculum Content 67

Integrated Leadership Focus: 19 Hours
Choose One—COM 101, 102, 141
Choose One—CS 205, 206, 207
Choose One—COM 325, 340, 343, 443, 453
Choose One—ENG 330, 333
Choose One—PSY 304, SOC 350, URS/PLS 345

Organizational Leadership Concentration: 48 Hours
Choose Two Prerequisites for Admission—
ACC 204, EC 204, TMK 204

Foundations: 16 Hours
All Required—EDL 301, 302, 303, 304

Fundamentals: 16 Hours
Required MGT 304
Choose Three—I.AW 300, MGT 321, MGT 485, URS 423, URS 424, URS 450, URS 470, 475

Skills Integration: 8 Hours
EDL 494
EDL 495

Associate’s Degree or Electives 70

Total 193

Physics Education

See Physics Education in the College of Science and Mathematics.

Psychology/Sociology Education

See Social Science Education in the College of Liberal Arts.

Rehabilitation Services

The rehabilitation services program trains graduates to work in human services agencies that serve people with physical and mental disabilities. The program also prepares students for graduate study in rehabilitation counseling or related areas. Curriculum flexibility attracts students who are interested in developing a program to reflect their special interests. Students must have completed 24 college credit hours and have earned a 2.5 GPA for admission to the program. Students must earn a minimum “C” in each professional rehabilitation course requirement. All students must complete a 400 clock-hour practicum. Prerequisites for the practicum include an overall 2.5 GPA, plus completion of all general education and rehabilitation courses necessary for preparing the student to complete the field experience. (See course description for more detailed information.)

Degree Requirements—Rehabilitation Services*
Bachelor of Science Degree

See General Education Requirements page 55

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Area 1:</td>
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<td>Area 2:</td>
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<td>Area 3:</td>
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<td>Area 4:</td>
<td>12</td>
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<tr>
<td>Area 5: BIO 105, 106, 107</td>
<td>12</td>
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<tr>
<td>Area 6: CNL 210 or RHB 210</td>
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</table>

Professional Requirements 60

RHB 201, 202, 301, 303, 304, 305, 401, 402, 403, 404, 407
CNL 461, 467

Related Requirements 44

COM 101, 102, 141
MGT 200

Political Science Education

See Social Science Education in the College of Liberal Arts.
Science Education

See Integrated Science Education in the College of Science and Mathematics.

Social Studies Education

See Social Science Education in the College of Liberal Arts.

Visual Arts Education

See Art and Art History in the College of Liberal Arts.

Vocational Education

The vocational education program prepares teachers from business and industry to teach in one of the five service areas taxonomies. A balanced program of general education, professional education, and study of vocational topics leads to a Bachelor of Science in Education degree. Vocational licensure can be earned when the candidate has technical course work and recent related work experience. Licensure in other areas can be obtained with a dual major option. Teachers who have completed the vocational education 36 quarter hour alternative licensure program may apply those hours toward the bachelor’s degree.

Option I—Intensive Vocational Major

This option is for practicing certificated-licensed vocational teachers who completed or are currently enrolled in the 39–42 quarter hour vocational preservice program and who are seeking a Bachelor of Science in Education. No other licensure will be earned.

Bachelor of Science in Education Degree

See General Education Requirements page 55

General Education 56
Area 1: 12
Area 2: 8
Area 3: 8
Area 4: 12
Area 5: 12
Area 6: ED 210 4
Curriculum Content 85
CS 205
OA 210
VOE 406, 410, 421, 451, 458
Choose for a total of 60 credits from the following:
VOE 412, 413, 414, 415, 416, 417, 418, 419,
422, 423, 425, 426, 459, 460, 461, 462, 463,
464, 465, 466
Professional Education 44–45
ED 301, 303, 458
EDS 333
EDT 280
VOE 431, 471, 472, 473, 474, 475, 476, 477,
478, 479
Total 185

Option III—Degree with Technical Minor

This degree is for those students who complete a major (45 hours) in a trade, industrial, health, or technical field who seek a Bachelor of Science in Education and vocational licensure in the specific area of the technical major.
## Bachelor of Science in Education Degree

See General Education Requirements page 55

<table>
<thead>
<tr>
<th>Section</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
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<tr>
<td>Area 6: ED 210</td>
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<td>Preprofessional Education Requirements</td>
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<tr>
<td>VOE 402, 403, 404, 405, 411, 431, 460,</td>
<td>22</td>
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<tr>
<td>461, 462, 466</td>
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<tr>
<td>VOE 429</td>
<td>4-15</td>
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<tr>
<td>EDT 280 Application Computer Technology</td>
<td>3</td>
</tr>
<tr>
<td>ED 301, 303, EDS 333</td>
<td>13</td>
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<tr>
<td>Vocational Courses*</td>
<td>90</td>
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<tr>
<td>All of the following courses must be taken:</td>
<td>22</td>
</tr>
<tr>
<td>VOE 406, 410, 421, 451, 458</td>
<td>15</td>
</tr>
<tr>
<td>OA 210 Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td>CS 205 Comp Literature and Office Automation</td>
<td>4</td>
</tr>
<tr>
<td>Choose from the following to complete major:</td>
<td>68</td>
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<tr>
<td>EDT 436 Pro of Instructional Materials</td>
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<tr>
<td>VOE 412, 413, 414, 415, 416, 417, 418, 419</td>
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<tr>
<td>421, 422, 423, 425, 426, 459, 460, 461, 462</td>
<td></td>
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<tr>
<td>463, 464, 465</td>
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</tbody>
</table>

**Total (minimum requirement)** 185

* A technical major of at least 45 credit hours can be used in the vocational block to complete the content major in vocational education.

Note: NOCTI test and technical course work may fulfill partial requirements for vocational credits.
The College of Engineering and Computer Science offers eight undergraduate degree programs to prepare students for professional careers. All eight of the programs are accredited by the Accreditation Board for Engineering and Technology (ABET). The programs of study are regularly updated, so students can take advantage of the latest technological advances.

The college is committed to providing an outstanding professional education to its students. This is accomplished by excellence in teaching, research, and service, and by collaborating with business and industry. As part of its commitment to collaborating with industry, the college is dedicated to developing programs important to the region and to making its programs and courses available to part-time and working students.

The undergraduate programs are intended to produce engineers and computer scientists prepared for entry into professional practice or graduate study. The programs provide an understanding of basic science and engineering fundamentals as well as modern professional practice, and also provide good, practical, and hands-on experience obtained from a strong laboratory program and real world problem solving. In particular, the college graduates will have:

- an ability to apply knowledge of mathematics, science, and engineering.
- an ability to identify, formulate, and solve engineering and science problems as appropriate to the discipline.
- an ability to design and conduct experiments as well as to analyze and interpret data.
- an ability to design a system, component, or process to meet desired needs.
- an ability to use techniques, skills, and modern tools necessary for professional practice.
- an ability to function on multi-disciplinary teams.

The college offers master's degrees in engineering and computer science. The college also offers a Ph.D. program in engineering and a Ph.D. program in computer science and engineering.

Students have access to modern laboratories and a wide range of computer systems interconnected by local and wide-area networks. Equipment includes an NCR WorldMark 4800 Data Warehouse; DEC Alpha servers, Silicon Graphics (SGI) servers, and SGI and Sun workstations; as well as numerous networked PCs and X-windowing terminals. Access is also available to the Ohio Supercomputer through the Ohio Academic and Research Network (OARNET) and Internet 2.

Admission and Advising

All students interested in earning a degree through the college should apply to Wright State University through the Office of Undergraduate Admissions. When applying, students should indicate their preferred major within the college, if known.

New students are usually assigned to the University College for academic advising. Admission to a degree program in the college is subject to the student's:

1. completing at least 45 quarter credits of college-level work.
2. attaining a cumulative GPA of at least 2.25. Computer science students must attain a cumulative GPA of 2.25 in all computer science and computer engineering courses.
3. completing required core courses in English composition, mathematics, computer programming, and chemistry or physics with a grade of "C" or better in each course.

Students are required to complete the program of study that is in effect at the time of their admission to the college. When they are admitted to a degree program in the college, students are assigned an academic advisor in the appropriate department. Students should consult with their advisor when first planning their program of study and then at least once a year thereafter.
to be sure they are following a logical schedule toward graduation.

Transfer students seeking admission to a degree program must have transfer credit equivalent to the first-year requirements for the program and must meet the requirements listed previously. Transfer students who do not meet these requirements will be assigned to the University College or to a preengineering or precomputer science program for academic advising.

Students who return to Wright State University after being absent for four or more quarters must reapply for admission and satisfy the same admission requirements listed above for new Wright State students. These returning students may be required to complete the program requirements that are in effect at the time of their readmission to the college. Their academic records will be reviewed by an advisor who will decide where they will be assigned for academic advising.

**Degrees and Areas of Study**

Bachelor of Science degrees are offered in biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, industrial and systems engineering, materials science and engineering, and mechanical engineering. Minors are offered in computer science for engineers and scientists, computing and information technology, and materials science and engineering.

**Graduation Requirements**

To be eligible for the Bachelor of Science degree, students must:

1. complete all of the requirements in one of the college’s degree programs.
2. fulfill the university’s General Education requirements. Intra-university transfer students who have completed an Area VI college component course do not have to complete EGR 190, the College of Engineering and Computer Science college component course.
3. complete the residency requirement of 45 credit hours at Wright State University, 30 of which must be earned in courses numbered 300 or above. At least 15 of the last 45 hours of the degree must be taken in residence.
4. complete all academic work with at least a 2.0 cumulative GPA and at least a 2.0 cumulative GPA in all engineering and computer science courses taken at Wright State University.

Students should meet with their academic advisor before their last quarter to be sure they will complete all requirements for graduation.

**Honors Program**

Honors programs are available in all departments. These honors programs give well-qualified students the opportunity to engage in advanced course work and carry out independent research projects. Students who are interested in an honors program should consult with the chair of the appropriate department. Honors are awarded at graduation.

**Cooperative Education**

Cooperative education programs are available in all departments. These programs permit students to gain work experience that is relevant to their academic programs. Interested students should contact the Cooperative Education office.

**Student Organizations**

The college and its departments sponsor a wide variety of student clubs. Involvement in these clubs allows students to develop closer ties with faculty and other students in the same major. It also gives students the opportunity to work in study groups, join professional organizations, gain career information, participate in professional seminars and tours, and attend social activities.

Clubs available to students are the American Institute for Aeronautics and Astronautics (AIAA), American Society of Mechanical Engineers (ASME), ASM International—The Materials Information Society (ASM/TMS), Association for Computing Machinery (ACM), Biomedical Engineering Society (BMES), Human Factors and Ergonomics Society (HFES), Institute of Electrical and Electronics Engineers (IEEE), Institute of Electrical and Electronics Engineers Computer Society (IEEE/CS), Institute of Industrial Engineers (IEI), National Society of Black Engineers (NSBE), Ohio Society of Professional Engineers (OSPE), Society of Automotive Engineers (SAE), Society of Women Engineers (SWE), Student Government, and the Wright Engineering Council (WEC). The Wright Engineering Council promotes communication and cooperation among all of the college clubs and fosters professional and social growth. A college-wide club fair is held annually in the fall to encourage membership. Students may contact the departments or the college office for information on joining any of the clubs.
The college also sponsors the Ohio Mu chapter of the Tau Beta Pi national engineering honor society. Student membership in Tau Beta Pi is based on high academic achievement.

Biomedical Engineering

Professors: Hangartner, He., Narayanan (Chair), Phillips, Rowley
Associate Professor: Reynolds
Assistant Professor: Skipper
Lecturer: Kender

The Department of Biomedical, Industrial, and Human Factors Engineering offers an undergraduate program in biomedical engineering leading to the Bachelor of Science in Biomedical Engineering. The Biomedical Engineering program is accredited by the Accreditation Board for Engineering and Technology (ABET). Biomedical engineering is concerned with solving and understanding problems in biology and medicine by using principles, methods and approaches drawn from engineering science and technology. Biomedical engineering students, working in modern teaching laboratories structured around computer-based engineering workstations, receive intensive academic training in engineering design and analysis principles as well as life science concepts. The senior design course brings previous course work to bear on actual biomedical engineering problems that help prepare students for employment or graduate study. The curriculum provides a solid foundation of courses in physical, life, and engineering sciences and mathematics. Courses in biomedical engineering advance and apply the engineering science to medical devices and living systems.

Biomedical Engineering Program Objectives

- To prepare students for employment as biomedical engineers, for admission to medical school, or for admission to graduate school.
- Current efforts in biomedical engineering at Wright State University include developing medical and surgical instrumentation, designing rehabilitative assistive and intelligent prosthetic/orthotic devices, medical imaging including computed tomography and ultrasound, biomimetics, and biomedical microdevices. Many of these areas require interfacing complex systems with computer data acquisition and subsequent modeling and analysis with modern engineering software.
- Two separate curricula are available.
- Curriculum A is the traditional degree program.
- Curriculum B, in addition to being ABET accredited, prepares students to apply for medical school.
- Students who transfer between curricula must complete the final curriculum in total.

The Undergraduate Honors Thesis track provides talented, highly motivated students the opportunity to develop their interests and professional skills by pursuing carefully structured programs of independent study, which culminates in completion of the Undergraduate Honors Thesis.

Biomedical engineers are employed in industry, hospitals, research facilities, government laboratories, and universities in areas such as artificial organs, biomechanics, drug delivery systems, automated patient monitoring, artificial joints, prosthetics and medical imaging technologies. Graduates may also pursue graduate studies in engineering or life sciences.

Degree Requirements—Biomedical Engineering

Bachelor of Science in Biomedical Engineering

Curriculum A: Traditional BME

See General Education Requirements page 55

General Education Requirements* 66

Required Substitutions:
Area One 18
MTH 229, 230
Area Two 8
Area Three 8
Area Four 12
Area Five 16
PHY 240/200, 242/202, 244/204
Area Six 4
College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major.
**For incoming freshmen only. Other students should consult a department advisor.
Engineering Requirements

Core Engineering Requirements:

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CEG 220</td>
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<tr>
<td>EE 301/302, 321</td>
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<tr>
<td>ISE 301, 307</td>
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<tr>
<td>ME 212, 213, 315</td>
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Major Courses:

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<td>BME 195, 419, 420, 422, 428, 439, 440, 460</td>
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<tr>
<td>BME 461, 462, 464, 470, 471, 491, 492, 402, 493, 403</td>
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Related Course Requirements

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<td>BIO 112, 278, 279</td>
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<tr>
<td>CHM 121, 122</td>
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<tr>
<td>MTH 231, 232, 233</td>
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</tbody>
</table>

Total 194

Bachelor of Science in Biomedical Engineering Curriculum B: BME Premedical

See General Education Requirements page 55

General Education Requirements*

<table>
<thead>
<tr>
<th>Requirement</th>
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<tr>
<td>Required Substitutions:</td>
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<td>Area One</td>
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<td>PHY 240/200, 242/202, 244/204</td>
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<td>Area Six</td>
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<tr>
<td>College Component: EGR 190**</td>
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</tbody>
</table>

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should consult a department advisor.

Additional courses for pre-med requirements 23

CHM 123, 211 and 215, 212 and 216, 213 and 217

Engineering Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>78</th>
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</thead>
<tbody>
<tr>
<td>Core Engineering Requirements:</td>
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<tr>
<td>CEG 220</td>
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<td>Major Courses:*</td>
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<td>BME 195, 419, 420, 422, 428, 439, 440, 460</td>
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<td>BME 461, 462, 464, 491, 492, 402, 493, 403</td>
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<td>Related Course Requirements</td>
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<tr>
<td>MTH 231, 232, 233</td>
<td>15</td>
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</tbody>
</table>

Total 205

*Students may substitute BME 470/471 for BME 422/439

Industrial and Systems Engineering

Professors Gallimore, Narayan (Chair), Phillips

Associate Professor Hill

Assistant Professors Ciarallo, Zhang

Lecturer Kender

The Department of Biomedical, Industrial and Human Factors Engineering offers an undergraduate program in industrial and systems engineering leading to the Bachelor of Science in Industrial and Systems Engineering. The Industrial and Systems Engineering program is accredited by the Accreditation Board for Engineering and Technology (ABET). The Industrial and Systems Engineering program emphasizes the evaluation, design, and improvement of complex systems. These systems can range from using a computer to advanced manufacturing facilities. The program recognizes the central role of the people in such systems, as both operators and beneficiaries, and provides the breadth of knowledge necessary to design systems from a user-centered perspective.

The curriculum provides a broad base, which includes core industrial engineering courses while focusing on the human aspects of systems design. Students take a variety of courses across traditional engineering disciplines and in other areas, which may include probability and statistics, optimization, production, engineering economics, computing, operations management, and psychology, depending on the area of concentration.

Industrial and Systems Engineering Program Objectives

- To provide graduates with the tools, knowledge, and problem solving skills to design, develop, implement, and improve integrated systems
- To provide graduates with a foundation in mathematics, science, engineering, and business principles that underpins professional practice
- To provide graduates with an understanding of the user-centered design process
- To prepare graduates who can work in a team environment and communicate effectively both written and orally
- To provide graduates an understanding of their role as engineers in the context of a global society
- To prepare graduates for professional practice and for admission to graduate programs
The Industrial and Systems Engineering program emphasizes a broad background in user-centered design within an industrial and systems engineering framework. Elective/concentration requirements are provided in order that students may develop a focus area of application. Currently there are four defined tracks in industrial and systems engineering: human integrated systems, information and computer systems, operations management, and undergraduate honors thesis.

Graduates of the program pursue careers in a wide range of settings including: manufacturing, health care delivery, information systems, aerospace, consulting, and telecommunications. In addition, students may choose to continue their education in graduate school.

Degree Requirements—Industrial and Systems Engineering

Bachelor of Science in Industrial and Systems Engineering Degree

See General Education Requirements page 55

General Education Requirements* 66

Required Substitutions:
Area One 18
MTH 229, 230
Area Two 8
Area Three 8
Area Four 12
Area Five 16
PHY 240/200, 242/202, 244/204
Area Six 4
College Component: EGR 190**
*Courses taken to satisfy GE requirements may not be counted toward the major.
**For incoming freshmen only. Other students should consult a department advisor.

Engineering Requirements 88

Core Engineering Requirements:
BME 419, 440 7
CEG 220 4
EE 301/302, 321 9
ME 212, 213, 220, 315 15
Major Courses:
ISE 472, 473, 474, 481, 482, 483 19
Related Course Requirements 26

CHM 121 5
MS 306 3
MTH 231, 232, 233, 253 18

Technical Communications Requirement 3
EGR 335 3

Elective/Concentration Requirement 11-12
ISE Honors Thesis Track 11-12
ISE 499-9, ISE 499-10, and one technical elective
Human Computer Interaction Track: 12
PSY 110, ISE 431, ISE 480
*Information and Computer Systems Track: 11-12
Select three from the following:
CS 241, 242, 400, 405, and MTH 257
**Operations Management Track: 12
MS 331, 435, MS 438 and 1 technical elective

Total (minimum) 195

*Minor in Computer Science for Engineers and Scientists available. See CS Dept for requirements and details.
**Minor in Operations Management available. See College of Business for requirements and details.

Undergraduate Honors Thesis Track

The honors thesis track provides talented, highly motivated students the opportunity to develop their interests and professional skills by pursuing carefully structured programs of independent study and research, which culminates in completion of the Undergraduate Honors Thesis.

Human Integrated Systems Track

Through a structured sequence of course work, this track provides the student with a foundation in both physical ergonomics and human-computer interaction. Students completing this track are typically employed as human factors engineers or continue with graduate studies in the field.

Minor in Computer Science for Engineers and Scientists

Students who successfully complete the concentration area courses for the information and computer systems track and meet departmental requirements will receive a minor in computer science for engineers and scientists. Interested students should apply to be admitted to the minor once they are established in the industrial and systems engineering major and have achieved junior status.
Minor in Operations Management

Students who successfully complete the concentration area courses for the operations management track and meet departmental requirements will receive a minor in operations management from the Raj Soin College of Business. Interested students should apply to be admitted to the minor once they are established in the industrial and systems engineering major and have achieved junior status. Students must be enrolled in the minor in order to be permitted to sign up for courses in the operations management track.

Computer Engineering

Professors Bourbakis, Brandeberry, H. Chen, Chung, Garcia (chair), Goshtasby, Jean, Rattan, Rizki, Sudkamp
Associate Professors Dong, Mateti, Quek, Thirunarayan
Assistant Professors Cox, Doom, Futamura, Gallagher, Liu, Pei, Raymer, Wang
Lecturers Finkelstein, Meyer, Rea, Taylor
Instructors Carl, Kakumanu, Perretta
Research Assistant Professor Hartrum
Adjunct Research Associate Professor Tamburino

The Bachelor of Science degree program in computer engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The curriculum is carefully designed to provide a modern program, balancing the study of hardware, software, theory, and practice. The program prepares students to be skillful practitioners by combining these studies with a thorough foundation in science, mathematics, and electrical and computer engineering. In addition to offering well-equipped educational laboratories, excellent faculty, and flexible programs for working professionals, the program also affords students with unique opportunities for research in the local area. Laboratory experience in design, experimentation, observation, implementation, and discovery complement the theoretical portion of the program.

Computer Engineering Program Objectives

- To produce graduates recognized by industrial, government, and academic entities as having a sound, current, and comprehensive education by providing a balanced and integrated hardware and software educational experience that is rich in modern laboratory, project, and design experiences, and which emphasizes team participation, problem solving, and communication skills
- To prepare and retain students who, upon graduation, will be motivated to pursue lifelong learning, continuing education, and graduate studies, as required by their personal development goals, through a stimulating, broad, and modern educational experience that is well grounded in the mathematical, scientific, and engineering principles, as well as in the fundamental concepts and theory of computing
- To instill in computer science and engineering students a sense of social responsibility, a code of conduct, and ethical values appropriate to the discipline, so that our graduates are valuable contributors in their societal and professional environments
- To encourage broad participation in our programs by nontraditional students (such as parttime, working, returning, and students with disabilities), and by women and minorities, through accessible facilities and through our scheduling and conduct of late afternoon and evening classes
- To recognize and encourage excellence in faculty teaching, research, and service

Graduates of the computer engineering program are prepared to supervise, design, and implement systems employing computer hardware, software, and firmware.

Degree Requirements—
Computer Engineering

Bachelor of Science in Computer Engineering Degree

See General Education Requirements page 55

General Education Requirements\(^\text{a}\) 66

<table>
<thead>
<tr>
<th>Required Substitutions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area One</td>
</tr>
<tr>
<td>MTH 229, 230</td>
</tr>
<tr>
<td>Area Two</td>
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<td>Area Three</td>
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<td>Area Four</td>
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<tr>
<td>Area Five</td>
</tr>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
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<tr>
<td>Area Six</td>
</tr>
<tr>
<td>College Component: EGR 190(^\text{a}^)</td>
</tr>
</tbody>
</table>

\(^{a}\)Courses taken to satisfy GE requirements may not be counted toward the major

\(^{a}^\text{a}\)For incoming freshmen only. Other students should consult a department advisor.
Computer Science Program Objectives

- To produce graduates recognized by industrial, government, and academic entities as having a sound, current, and comprehensive education by providing a balanced and integrated hardware and software educational experience that is rich in modern laboratory, project, and design experiences, and which emphasizes team participation, problem solving, and communication skills.

- To prepare and retain students who, upon graduation, will be motivated to pursue lifelong learning, continuing education, and graduate studies, as required by their personal development goals, through a stimulating, broad, and modern educational experience that is well grounded in the mathematical, scientific, and engineering principles, as well as in the fundamental concepts and theory of computing.

- To instill in computer science and engineering students a sense of social responsibility, a code of conduct, and ethical values appropriate to the discipline, so that our graduates are valuable contributors in their societal and professional environments.

- To encourage broad participation in our programs by nontraditional students (such as part-time, working, returning, and students with disabilities), and by women and minorities, through accessible facilities and through our scheduling and conduct of late afternoon and evening classes.

- To recognize and encourage excellence in faculty teaching, research, and service.

Degree Requirements—Computer Science (Bioinformatics Option)

Bachelor of Science in Computer Science (Bioinformatics Option)

See General Education Requirements page 55

General Education Requirements

| Area One | 18 |
| Area Two | 8  |
| Area Three | 8  |
| Area Four | 12 |
| Area Five | 12 |
| BIO 111, 112, 115 | |
| Area Six | 4  |

Approved Electives

(Electives must be chosen with the consent of an advisor to provide a coherent concentration and design experience)

Mathematics/Statistics Requirements

MTH 231, 233, 253, 257 16
ISE 301 4
Technical Communications 3
EGR 335 3

Total 195

Computer Science

Professors: Bourbakis, Chung, Garcia (chair), Goshtasby, Jean, McKee, Rizki, Sudkamp

Associate Professors: Dong, Mateti, Quek, Thirunarayan

Assistant Professors: Cox, Doom, Futasura, Gallagher, Liu, Hawley (WSU-Lake Campus), Pet, Raymer, Wang

Lecturers: Finkelstein, Meyer, Rea, Taylor

Instructors: Carl, Kakumanu, Perretta

Research Assistant Professor: Hartrum

Adjunct Research Associate Professor: Tamburino

The Bachelor of Science degree program in computer science is accredited by the Computing Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The curriculum is carefully designed to provide a modern program, balancing the study of hardware, software, theory, and practice. The program prepares students to be skillful practitioners by combining these studies with a thorough foundation in science, mathematics, computer science. In addition to offering well-equipped educational laboratories, excellent faculty, and flexible programs for working professionals, the program affords students with unique opportunities for research in the local area. The degree program allows for a second concentration in an area of bioinformatics, mathematics, science, business, or the arts.
College Component: EGR 190**

Courses taken to satisfy GE requirements may not be counted toward the major.

*For incoming freshmen only. Other students should consult a department advisor.

<table>
<thead>
<tr>
<th>Departmental Requirements</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 240, 241, 242, 271, 400, 415</td>
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</tr>
<tr>
<td>CS 405, 409, 471, 480</td>
<td>16</td>
</tr>
<tr>
<td>CEG 255, 260, 320, 333, 433</td>
<td>18</td>
</tr>
<tr>
<td>**</td>
<td>2? ?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Engineering Requirements</th>
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</table>

<table>
<thead>
<tr>
<th>Computer Science/Engineering Electives</th>
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</tr>
</thead>
</table>

Bioinformatics Electives
(Electives must be chosen with the consent of an advisor to provide a coherent major.)

<table>
<thead>
<tr>
<th>Mathematics/Statistics/Science Requirements</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 231, 253, 257</td>
<td>11</td>
</tr>
<tr>
<td>ISE 301</td>
<td>4</td>
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</table>

<table>
<thead>
<tr>
<th>Chemistry Courses</th>
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</thead>
<tbody>
<tr>
<td>CHM 121, 122, 123</td>
<td>15</td>
</tr>
<tr>
<td>CHM 211, 212, 213, 215, 216, 217</td>
<td>18</td>
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</table>

<table>
<thead>
<tr>
<th>Biology Courses</th>
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<tbody>
<tr>
<td>BIO 210, 211, 212</td>
<td>12</td>
</tr>
<tr>
<td>BIO 410, 492</td>
<td>5</td>
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</table>

Technical Communications

<table>
<thead>
<tr>
<th>EGR 335</th>
<th>3</th>
</tr>
</thead>
</table>

**Total** 195

### Bachelor of Science in Computer Science (Business Option)

General Education Requirements* (see p.55) 66

<table>
<thead>
<tr>
<th>Required Substitutions</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Area One</td>
<td>8</td>
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<tr>
<td>Area Two</td>
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<td>Area Three</td>
<td>8</td>
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<tr>
<td>Area Four</td>
<td>12</td>
</tr>
<tr>
<td>Area Five</td>
<td>16</td>
</tr>
<tr>
<td>Area Six</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>College Component: EGR 190**</th>
<th>4</th>
</tr>
</thead>
</table>

Courses taken to satisfy GE requirements may not be counted toward the major.

*For incoming freshmen only. Other students should consult a department advisor.

<table>
<thead>
<tr>
<th>Departmental Requirements</th>
<th>61</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 240, 241, 242, 400, 415</td>
<td>19</td>
</tr>
<tr>
<td>CS 405, 466, 480</td>
<td>12</td>
</tr>
<tr>
<td>CEG 255, 260, 320, 333, 360, 433, 434, 460</td>
<td>30</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Engineering Requirements</th>
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</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Computer Science/Engineering Electives</th>
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</table>

Approved Electives
(Electives must be chosen with the consent of an advisor to provide a coherent major.)

<table>
<thead>
<tr>
<th>Mathematics/Statistics/Science Requirements</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MTH 231, 253, 257</td>
<td>11</td>
</tr>
<tr>
<td>ISE 301</td>
<td>4</td>
</tr>
<tr>
<td>CHM 121, or BIO 111, or a physics course with PHY 244 as a prerequisite</td>
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</table>

Technical Communications

<table>
<thead>
<tr>
<th>EGR 335</th>
<th>3</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Elective/Concentration Requirements</th>
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</tr>
</thead>
<tbody>
<tr>
<td>EC 205</td>
<td>4</td>
</tr>
<tr>
<td>ACC 204, 205</td>
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</tr>
<tr>
<td>Choose three from CS 214, LAW 300, FIN 310</td>
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</tr>
<tr>
<td>MKT 300, MGT 304, MS 204, or MS 205</td>
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</table>
### Mathematics/Statistics/Science Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
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<tr>
<td>MTH 231, 253, 257</td>
<td>11</td>
</tr>
<tr>
<td>ISE 301</td>
<td>4</td>
</tr>
<tr>
<td>CHM 121, or BIO 111, or a physics course with PHY 244 as a prerequisite</td>
<td>4</td>
</tr>
</tbody>
</table>

**Technical Communications**

- EGR 335: 3 credits

**Elective/Concentration Requirements**

- 16 credits

**Language Requirement**

- 8 credits: (English 200 level or above, not including ENG 347 and 405) or foreign language

**Elective/Concentration Requirements**

- 24 credits

**Total**

- 193 credits

### Bachelor of Science in Computer Science (Science Option)

**General Education Requirements**<sup>a</sup> (see p.55)

- 66 credits

**Required Substitutions**

- Area One: 18 credits
- MTH 229, 230
- Area Two: 8 credits
- Area Three: 8 credits
- Area Four: 12 credits
- Area Five: 16 credits
- PHY 240/200, 242/202, 244/204
- Area Six: 4 credits

- College Component: EGR 190<sup>**</sup>

**Departmental Requirements**

- 61 credits
- CS 240, 241, 242, 400, 415
- CS 405, 466, 480
- CEG 255, 260, 320, 333, 360, 433, 434, 460

**Engineering Requirements**

- 30 credits

**Computer Science/Engineering Electives**

- 20 credits

**Approved Electives**

- 20 credits

---

### Minor in Computer Science for Engineers and Scientists

The objective of this minor is to provide students who have a background in engineering or science with a structured and coherent concentration of study in computer science that can be noted on the student's transcript. The program consists of 23 quarter hours covering a basic introduction to computer science; computer mathematics; data structures; and an application area chosen from operating systems, software engineering, or database management systems.

**Minor Requirements**

- 23 credits

**Required Courses**

- CS 240 or CEG 220: 19 credits
- CS 241, 242, 400

**Elective Courses**

- CS 405 or CEG 433 or CEG 460: 4 credits

### Minor in Computing and Information Technology (CIT)

The objective of the CIT minor is to satisfy the needs of the intelligent and responsible application of computing and information technologies to majors in fields that would not have computer science or computer engineering as their fundamental and exclusive basic orientation, but would want to benefit from the products of applications of the latter two disciplines and their proper use. The minor provides a conceptual foundation as well as a practical application of various computing and information technology skills. At present, this minor is intended to serve the Department of Accountancy.
Certificate in Object-Oriented Programming

The objective of this certificate is to provide an undergraduate experience in object-oriented programming fundamentals for practitioners of programming in other more classical methodologies and practices. It is assumed that students pursuing this certificate will have at least three years of industrial experience in the programming field, and a baccalaureate degree.

Certificate Requirements

- CS 241 or CEG 330 4
- CEG 255 4
- CS 214, 242, 340, 400 13

Electrical Engineering

Electrical Engineering is the core problem-solving foundation of our technological society. That's because anything involving the movement of electrons falls within the province of electrical engineering. Electrical engineers create, design, build, and improve everyday necessities we now take for granted—from computers to cell phones; from DVD players to digital control systems in modern automobiles; from arrays of sensors and signal and image processors to space-based communications; and from advanced manufacturing robots to hybrid electric cars. Electrical engineers also design, test, and fabricate the integrated circuit chips that make virtually all these devices possible.

The Department of Electrical Engineering offers students a number of programs leading to a variety of degrees geared to a wide range of interests and career needs. Fully ABET-accredited Bachelor of Science degrees are offered in the core discipline of electrical engineering, or in the more specialized area of engineering physics. Two graduate degrees are also available: a Master of Science in Engineering with a major in electrical engineering, and a unique interdisciplinary Doctor of Philosophy degree in Engineering.

Electrical Engineering Program Objectives

- To prepare students for employment as electrical engineers
- To prepare students for success in graduate studies
- To prepare students to solve real world engineering problems using modern electrical engineering analysis and design techniques
- To offer a curriculum and schedule of classes so that both traditional and part-time working students can complete degree requirements
- To offer a program that is recognized for the quality and strength of the laboratory component

Required courses in electronic circuits, control theory, communication theory, and electromagnetic theory give the student an overview of the electrical engineering discipline. At least one elective design sequence in either control systems, electronic systems, communication systems, electromagnetic systems, or other as approved by your advisor is required to provide strength and depth for each graduate. For example, two required courses in electronic circuits lead to a four-course elective sequence culminating in a very large scale integrated (VLSI) circuit design project. Similarly, the required course in control theory leads to analog and digital controller design courses. In the capstone course, students design and test control circuits.
Degree Requirements—
Electrical Engineering

Bachelor of Science in Electrical Engineering Degree

See General Education Requirements page 55

General Education Requirements* 66

Required Substitutions:
Area One 18
MTTH 229, 230
Area Two 8
Area Three 8
Area Four 12
Area Five 16
PHY 240/200, 242/202, 244/204
Area Six 4
College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major

** For incoming freshmen only. Other students should consult a department advisor.

Engineering Requirements 64

ME 212, 213; CEG 221*, 411 16
EE 140, 260, 301/302, 303/304, 321, 322 24
EE 325, 331/332, 345, 413/414, 421, 431/432 24

Related Course Requirements 33

CEG 220 4
MTH 231, 232, 233, 253 18
STT 363 or ISE 301, CHM 121, EGR 335 11

Technical Elective† 3

Engineering Electives†† 24

Design Sequence I—Electronic Systems
EE 444 or 449, 451, 454, 455 16

Design Sequence II—Control Systems
EE 415/416, 417/420, 418 12

Design Sequence III—Communication/Signal Processing
EE 435, 436, 476 12

Design Sequence IV—Electromagnetics
EE 346, 446, 448 12

Design Sequence V—Design Projects with Industry
EE 499 (3 quarters) 12

Total 198

* ME 315 may be substituted for CEG 221
† The Technical Elective course is to be selected from those courses numbered 200 and above in either the College of Engineering and Computer Science, the College of Science and Mathematics, or the Ray Smith College of Business, and approved by the advisor. Redundant courses such as MTH 228, MS 201, MS 202, CS 205, CS 206 and co-listed courses may not be used as the Technical Elective course.

+++ Engineering elective courses (24 credit hours required). Students must select one of the five design sequences listed above as part of their engineering electives. The remaining electives must be selected from those courses numbered 300 or above in the College of Engineering and Computer Science and approved by the advisor. At least 20 of the 24 credit hours must be from electrical engineering courses.

Designs desiring to complement electrical engineering skills with an increased emphasis on computer science may choose a minor in computer science for engineers and scientists. Those choosing the computer science minor will substitute CS 240 and CS 241 for CEG 220 and CEG 221. This minor is focused on programming theory, C and C++ languages, data structures, and an application area chosen from operating systems, software engineering, or database management systems.

Engineering Physics

Engineering physics is an interdisciplinary program offered jointly by the Department of Electrical Engineering and the Department of Physics. This program emphasizes engineering science and basic physics as applied to the design of processes, systems, and devices. The program is designed to prepare students for employment in engineering with emphasis on research and development; to do graduate study in either physics or engineering; and to use modern engineering, scientific analysis, and design techniques. The engineering physicist is typically a link between laboratory scientists and production engineers.

The curriculum contains a core of practical mathematics and computer usage, as well as basic science and engineering science to prepare the student for graduate work. Additional courses in solid state, lasers, electro-optics, transducer instrumentation, and signal communication provide excellent background for industrial or governmental research and development (R&D) work. Opportunities for graduates include laser systems development, detector systems development, device design, computer chip design, materials development, detector systems development, avionics, aerospace engineering, superconductivity, environmental science, and management.
A final design project is required of all students, providing unmatched experience for work in research and development. The favorable faculty to student ratio in this program allows students to pursue independent design projects under faculty supervision, frequently utilizing industry or governmental laboratories. These hands-on projects give students experience, better equipping them for employment in today’s competitive job market.

**Engineering Physics Program Objectives**

- To prepare students for employment in the engineering profession with emphasis on research and development
- To prepare students for success in graduate studies
- To prepare students to solve real-world engineering problems using modern engineering analysis and design techniques
- To offer a curriculum emphasizing physical science to produce engineering physicists capable of combining theory with analysis and design to solve practical engineering problems

**Degree Requirements—Engineering Physics**

**Bachelor of Science in Engineering Physics Degree**

See General Education Requirements page 55

<table>
<thead>
<tr>
<th>General Education Requirements*</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Required Substitutions:</td>
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<td>Area One</td>
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<td>Area Five</td>
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<tr>
<td>PHY 240/200, 242/202, 244/204</td>
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<tr>
<td>College Component: EGR 190**</td>
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</table>
| *Courses taken to satisfy GE requirements may not be counted toward the major **For incoming freshmen only. Other students should consult a department advisor.

<table>
<thead>
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<tbody>
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<td>(ME 315 may be substituted for PHY 420)</td>
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<tr>
<td>EE 301/302, 303/304, 321, 322, 331/332</td>
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<tr>
<td>EE 413/414, 415/416, 421</td>
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<tr>
<td>EP 494</td>
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| Physics Requirements | 27 |

<table>
<thead>
<tr>
<th>Related Course Requirements</th>
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<tbody>
<tr>
<td>CHM 121, 122</td>
<td>10</td>
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<tr>
<td>CFG 220 or CS 240</td>
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<td>MTH 231, 232, 233, 253</td>
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</table>

<table>
<thead>
<tr>
<th>Technical Electives***</th>
<th>28</th>
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</thead>
</table>
| ***Technical Elective courses are to be selected from those numbered 200 and above in either the College of Engineering and Computer Science, the College of Science and Mathematics, or the Raj Soin College of Business, and approved by the advisor. Redundant courses such as MTH 228, MS 201, MS 202 and co-listed courses may not be used as Technical Elective courses.

| Total (minimum) | 197 |

**Mechanical and Materials Engineering**

*Professors* Dadras (Emeritus), Grandhi, Hankey (Emeritus), Mukhopadhyay, R. Srinivasan, J. Thomas, Wolff

*Associate Professors* Amer, Bethke (chair), Cornelius, Lieh, Menart, Slater, S. Thomas

*Assistant Professors* Friar (Emeritus), Klingbeil, Pennetsa, Young

The Department of Mechanical and Materials Engineering offers undergraduate programs in mechanical engineering and materials science and engineering. Both programs are accredited by the Accreditation Board for Engineering and Technology (ABET). These programs cover traditional engineering fundamentals and develop the skills for modern engineering analysis and design. Laboratory and computer experience are integrated throughout the curriculum. Most required courses are offered in both day and evening sections at least once a year.

**Mechanical Engineering**

Mechanical engineering is a modern, creative discipline encompassing a wide variety of technical activities. The field is changing rapidly with the progress of the computer era, but the key element that links all of the activities within mechanical engineering is design. The design function is now largely computer-based and involves modeling, simulation, analysis, and synthesis.
Historically, mechanical engineering includes two principle stems. One stem concerns heat, fluids, and energy. Engineers who study combustion in a turbine engine or aircraft lift and drag are practicing in this area. The other stem concerns force and motion in mechanical systems. Problems here include determining robot trajectories, analyzing vibrations to minimize noise, or predicting the stresses in a rotating disc.

The curriculum includes advanced course work in mechanics, thermal sciences, fluids, materials, electronics, mechanical systems, and design.

**Mechanical Engineering Program Objectives**

- To provide a quality educational experience that prepares our mechanical engineering students for successful entry into the engineering profession, to pursue graduate study, and to stimulate lifelong learning.
- To provide a solid foundation in mathematics, basic and engineering sciences, computer application, laboratory techniques, and their use in solving mechanical engineering problems.
- To provide broad and significant experience in engineering design, enhance communication skills, and provide the opportunity to work in collaborative groups.
- To provide these educational opportunities in modern facilities at competitive cost to a variety of qualified individuals, including part-time and evening students.

**Degree Requirements—Mechanical Engineering**

**Bachelor of Science in Mechanical Engineering Degree**

<table>
<thead>
<tr>
<th>General Education Requirements* (see p.55)</th>
<th>66</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Substitutions</td>
<td></td>
</tr>
<tr>
<td>Area One</td>
<td>18</td>
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<td>MTH 229, 230</td>
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<td>Area Two</td>
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<td>Area Five</td>
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<tr>
<td>PHY 240/200, 242/202, 244/204</td>
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</tr>
<tr>
<td>Area Six</td>
<td>4</td>
</tr>
<tr>
<td>College Component: EGR 190**</td>
<td></td>
</tr>
</tbody>
</table>

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should consult a department advisor.**

<table>
<thead>
<tr>
<th>Engineering Requirements</th>
<th>91</th>
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</thead>
<tbody>
<tr>
<td>EGR 153, ME 199</td>
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<tr>
<td>ME 202, 212, 213, 220</td>
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<tr>
<td>ME 313, 315, 316, 317, 318, 370, 371</td>
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<tr>
<td>ME 408, 414, 415, 460, 490, 491</td>
<td>23</td>
</tr>
<tr>
<td>EE 301/302, 321, 401/402, 413/414</td>
<td>18</td>
</tr>
</tbody>
</table>

**Related Course Requirements**

| CHM 121                                   | 5   |
| MTH 231, 232, 233, 253                    | 18  |
| STT 363                                   | 3   |
| CS 316                                    | 4   |

| Technical Electives***                   | 10  |

These courses to be selected from an approved list.

**Total**

| 197 |

***Technical Electives are listed on the mechanical engineering program guide available in the department office.

**Materials Science and Engineering**

Materials science and engineering has evolved over the last 25 years from metallurgical engineering, polymer chemistry, and ceramic science. It is increasingly recognized as a key engineering field that opens the door for new developments in other advanced technologies. Over the past several decades, scientists and engineers have successfully developed radically new materials. Examples include lightweight alloys for structural use, composites of high-strength fibers in ductile matrices, semiconductors for electronic devices, and more recently, high-temperature semiconductors. These advances typify the challenge faced by materials engineers—to select, modify, or develop the right materials for new applications and technologies.

The curriculum includes advanced course work in engineering mechanics, materials science, ceramics, metallurgy, polymer science, electric circuits, materials testing, processing, and design.

**Materials Science and Engineering Program Objectives**

- To prepare our students to successfully enter the engineering profession, to pursue graduate study, and to appreciate the benefits of lifelong learning.
- To provide opportunities to learn basic science and engineering concepts and be able to apply them to the field of materials.
- To provide the opportunities to understand the relationship between processing, microstructure, properties, and performance of different material systems.
To provide the opportunity to develop analytical, experimental, and computational skills

To provide these educational opportunities, in both day and evening classes, at a competitive cost to qualified full-time and part-time students

### Degree Requirements—

**Materials Science and Engineering**

**Bachelor of Science in Materials Science and Engineering Degree**

<table>
<thead>
<tr>
<th>General Education Requirements* (see p.55)</th>
<th>66</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Substitutions</td>
<td></td>
</tr>
<tr>
<td>Area One</td>
<td>18</td>
</tr>
<tr>
<td>MTH 229, 230</td>
<td></td>
</tr>
<tr>
<td>Area Two</td>
<td>8</td>
</tr>
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<td>Area Three</td>
<td>8</td>
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<tr>
<td>Area Four</td>
<td>12</td>
</tr>
<tr>
<td>Area Five</td>
<td>16</td>
</tr>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
<td></td>
</tr>
<tr>
<td>Area Six</td>
<td>4</td>
</tr>
<tr>
<td>College Component: EGR 190**</td>
<td></td>
</tr>
</tbody>
</table>

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should consult a department advisor.

<table>
<thead>
<tr>
<th>Engineering Requirements</th>
<th>92</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGR 153, ME 199</td>
<td>7</td>
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<td>ME 202, 212, 213, 220</td>
<td>15</td>
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<td>ME 313, 315, 370, 371, 375, 376, 385, 386</td>
<td>27</td>
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<tr>
<td>ME 470, 472, 477, 479, 480, 483, 492, 493</td>
<td>30</td>
</tr>
<tr>
<td>ME 485, 486, 487, 488, 489 (select any two)</td>
<td>8</td>
</tr>
<tr>
<td>EE 301, 302</td>
<td>5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Course Requirements</th>
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<tbody>
<tr>
<td>CHM 121</td>
<td>5</td>
</tr>
<tr>
<td>MTH 231, 232, 233, 253</td>
<td>18</td>
</tr>
<tr>
<td>Technical Electives***</td>
<td>14</td>
</tr>
</tbody>
</table>

| These courses to be selected from an approved list | 195 |

***Technical Electives are listed on the materials science and engineering program guide available in the department office.

### Minor in Materials Science and Engineering

Engineering and nonengineering students may earn a minor in materials science and engineering (MSE), in addition to their major, by completing 45 hours of course work as specified below. Thirty-four hours of core courses are required and 11 hours of elective courses may be selected from the list of approved courses. The elective courses permit a student to tailor his or her particular minor program by choosing courses that concentrate on a specific aspect of materials science and engineering, or selecting courses that complement the student’s major. Those students who complete the 45 credits with an average grade “C” or higher will receive the designation of “Minor in Materials Science and Engineering” on their transcript when they graduate. Minor course credits may also be used to satisfy the requirements of the major field, if allowed.

<table>
<thead>
<tr>
<th>Minor Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
</tr>
<tr>
<td>ME 212, 213, 313, 315</td>
</tr>
<tr>
<td>ME 370, 371, 375, 376, 477</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elective Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
</tr>
</tbody>
</table>

To be selected from an approved list available in the department office, 209 Russ Center.

### Fall 2003 CECS General Education Procedure

Area VI – College Component Course

EGR 190 – 4.0 will be the college component course. All eligible students are required to register for and pass this course. “Eligible” is defined as having earned a total of not more than 45 quarter credit hours in residence at WSU or by transfer credit from another university.

Students who are not eligible to enroll in EGR 190 may substitute one of the following courses for the CECS college component course subject to department advisor approval:

- EH 205 – 4.0 Environmental Science and Society: A Cross-Cultural Perspective
- EC 290 – 4.0 Economic, Business, and Social Issues
- PSY 110 – 4.0 Psychology: The Science of Behavior II
- URS 200 – 4.0 Growth and Change in Urban Societies

(other department approved college component courses to be added)

Area VI Transfer Policy: Students who wish to transfer from another college at WSU to the CECS will take and pass EGR 190 if eligible to enroll in the course unless they have already completed a college component course.
LIBERAL ARTS
Admissions and Advising

B.A. and B.S. Programs

To enter a B.A. or B.S. program in the College of Liberal Arts, students must have a minimum cumulative GPA of at least 2.0, and a minimum of 24 credit hours completed including ENG 101 and 102 (with a grade of "C" or better in both), plus three other General Education courses from Areas 2, 3, or 4.

In addition, students must be accepted into a major program. Some programs have additional, more stringent admission requirements.

B.F.A. Programs

Students may enter the college’s B.F.A. programs with a minimum of 24 credit hours. In addition to general university requirements, many of these programs also require auditions, interviews, or portfolio reviews.

B.M. Programs

Students enter the college’s B.M. program as freshmen and must successfully complete an audition in a major performance area.

Returning Students

Students who return to Wright State after an absence of four or more quarters must reapply for admission and satisfy the admission requirements listed above. Students who return after eight or more quarters’ absence will have to complete the program requirements that are in effect when they are readmitted to the college.

Advising

Students majoring in liberal arts degree programs receive advising from the Liberal Arts Advising Office and from a major advisor. The Liberal Arts Advising Office is responsible for university and college requirements; the major advisor is responsible for program requirements. The Liberal Arts Advising Office sends out a checksheet, which charts a student’s progress toward the bachelor’s degree at two points in the student’s career: when the student enters the college and when the student achieves senior standing. Students should consult their major advisor frequently, but especially when they enter a program and when they receive their senior checksheet.
Degrees and Areas of Study

The Bachelor of Arts

The Bachelor of Arts degree provides the broadest educational program. Building on the General Education Program, it requires study of a foreign language and research methods combined with concentrated study in a single major area. Elective courses give students a chance to explore subjects of personal interest or to take courses that improve their employment prospects. Liberal Arts programs are also excellent preprofessional training for law, medicine, and business, and all of them provide preparation for students interested in pursuing graduate study. These majors prepare students for careers in fields such as communication, foreign service, government, journalism, teaching, writing and editing, and social work.

Programs leading to the B.A. degree are offered in African and African American Studies, anthropology, art, art history, classical humanities, communication studies, economics, English, French, geography, German, Greek, history, integrated language arts, international studies, Latin, mass communication, modern languages, motion picture studies, music, organizational communication, philosophy, political science, religion, selected studies, social and industrial communication, social science education, social work, sociology, Spanish, theatre studies, urban affairs, and women’s studies.

The Bachelor of Science

As an option to the B.A., the Bachelor of Science degree stresses training in mathematics, statistics, and computer skills. There is no foreign language requirement. The College of Liberal Arts offers the B.S. degree only in geography and urban affairs.

The Bachelor of Fine Arts

The Bachelor of Fine Arts degree offers intensive, specialized training designed to prepare students for a professional career in the fine and performing arts with a special emphasis on performance and studio work. The B.F.A. is offered by the Department of Art and Art History, as well as by the Department of Theatre Arts, which offers programs in dance, motion picture production, acting, acting—musical theatre, and design/technology/stage management. The B.F.A. degree is also available through the Selected Studies Program.

The Bachelor of Music

The Bachelor of Music degree is designed to provide professional training in music. It is a concentrated, narrowly focused program offering specializations in performance, music education, and music history and literature.

Interdisciplinary Study

The College of Liberal Arts offers interdisciplinary majors in international studies, selected studies including women’s studies, urban affairs, social and industrial communication, and social science education. Interdisciplinary courses are offered by various departments.

Degree Requirements

All students must complete the program requirements of the major to which they have been admitted. In addition, to be eligible for a bachelor’s degree from the College of Liberal Arts, students must:
1. fulfill the university General Education requirements.
2. complete the residency requirement of 45 credit hours at Wright State. At least 15 of the last 45 hours for the degree must be taken in residence.
3. complete at least 192 credit hours with at least a 2.0 cumulative GPA. No more than eight hours of physical education courses apply toward a degree.
4. complete at least 100 credit hours of work within the college.
5. complete at least 60 credit hours in upper division courses (those numbered 300 and above). At least 30 of these must be taken at Wright State.
6. complete the required writing intensive course components, both in General Education and the major.

General Education: College Component Requirement for Liberal Arts Majors

Students who transfer to the College of Liberal Arts from a different college within Wright State University must satisfy the General Education “College Component” requirement (Area Six) by taking a course from the list of classes approved by the College of Liberal Arts. Area Six classes offered in other colleges will not meet this requirement.

Most students already in the College of Liberal Arts who switch to another major within the college may take any COLA College Component course to meet the Area Six requirement. Exceptions to this policy include the following:
- Students majoring in the Department of Music must take CST 242.
- Students majoring in Theatre Studies, Acting, Acting Musical Theatre, or Design Technology and Stage Management must take TH 250.
- Students completing the B.A. in Economics must take EC 290.

Additional Requirements for the B.A. Degree

Foreign Language and Research Methods

Students working toward the B.A. degree must complete a block of courses in foreign language and in research methods.

Foreign Language. Students must demonstrate proficiency in a foreign language at the 202 level or American Sign Language at the 230 level, either by satisfactorily completing course work or by taking an examination. For proficiency exams in French, German, and Spanish, consult the Department of Modern Languages. For proficiency exams in Greek or Latin, consult the Department of Classics. Those interested in American Sign Language should contact the Department of Human Services in the College of Education and Human Services. Other languages are acceptable, subject to approval by the Liberal Arts Advising Office.

Students who are continuing a language that they began studying elsewhere need to be placed at the appropriate level. For placement in French, German, and Spanish, contact the Department of Modern Languages. For placement in Greek and Latin, contact the Department of Classics.

Research Methods. Students must complete a block of three courses in research methods, one in each of computers, logic, and statistics and methodology. For details, consult the Liberal Arts Advising Office or a major advisor.

Maximum Credit Hours in Major

Except in unusual circumstances, students completing the B.A. or B.S. degree may count no more than 68 hours of courses in their major department toward the 192 hours required for graduation. Exceptions must have the prior approval of the dean of the college or of the college petitions committee.

Minors

A minor program provides students with a structured concentration of study in a second area of specialization; the minor work is noted on students’ permanent university records. A minor typically requires about half the hours required in a major program. Minors are available in African and African American studies, anthropology, classical humanities, communication, economics, English, French, geography, German, history, music, philosophy, political science, religion, sociology, women’s studies, Spanish, and urban affairs. Minors are described in the department program sections of this catalog. For more information, contact the appropriate department office.

Students who wish to combine the breadth of a major in the College of Liberal Arts with a general foundation of business courses may use their elective hours to earn a business minor. This program consists of a core of courses that satisfy most of the course prerequisites for the Master of Business Administration program at Wright State. (See page 73 for further details.)

Honors Program

Seniors can earn honors at graduation by participating in a departmental honors program. Designed for students capable of superior work, honors programs are available in anthropology, art history, classics, communication, English, geography, history, modern languages, motion pictures, music, philosophy, political science, religion, social work, sociology, urban affairs, and women’s studies. Honors programs usually involve intensive independent study under the direction of a faculty mentor over a period of two or three quarters. For more details, contact the appropriate department office.

Cooperative Education Program

A number of departments in the College of Liberal Arts offer students an opportunity to earn academic credit for relevant work experience through the cooperative education program. Co-op students can apply classroom learning in work settings, explore potential career fields, and gain practical experience that improves employment prospects after graduation.

A maximum of 16 hours of cooperative education credit can be counted toward a bachelor’s degree. For more information, contact the departments of art, communication, economics, English, geography, history, political science, social work, sociology/anthropology, and theatre or the Women’s Studies Program. A cooperative education advisor in the Career Services office can provide more details.
Teacher Licensure

The College of Liberal Arts offers several degrees that prepare students interested in achieving an Ohio teaching license. Bachelor of Arts degrees that prepare students for a graduate licensure program are available in English: Integrated Language Arts, Social Science Education, French, and Spanish. The Bachelor of Fine Arts degree is available for students seeking graduate licensure in Art Education. In addition, completion of the requirements for the Bachelor of Music degree in Music Education will lead towards a teaching license.

Students interested in licensure programs must be advised by a major advisor in the College of Liberal Arts. Before applying to a graduate licensure program, students should schedule a conference with an education advisor to review program admission and degree requirements.

Student Organizations

Within the college, departments sponsor a wide variety of student clubs and honor societies. Involvement in these organizations allows students to develop closer ties with the faculty and other students in the same major. In addition, it gives students the opportunity to join professional organizations, gain career information, and participate in professional and social activities. Interested students should contact departmental faculty for details.

African and African American Studies

Program Director  Paul R. Griffin

African and African American Studies (AFS) is an interdisciplinary program that provides students with the opportunity to explore the heritage and contributions of Africans and African Americans to world civilizations and cultures. Students within this major will: (1) develop effective critical thinking and communication skills; (2) explore teaching and research interests in African and African American experiences in Africa, the United States, and throughout the African Diaspora; and (3) participate in related applied and practical experiences beyond the classroom through a service learning internship.

Students who wish to engage in more concentrated study within the major are able to design an appropriate course of study through directed readings and independent study with the permission of the program director and a professor in the program.

Students seeking admission to the major must possess an overall GPA of 2.5. To graduate with a degree in African and African American Studies, students must complete—in addition to university and college requirements—a total of 61 credit hours of department requirements and maintain a grade of “C” or higher in all AFS classes. At least 30 credit hours in the major must be at the 300-level or above.

Degree Requirements—African and African American Studies

See General Education Requirements page 55

General Education Requirements 56

Required Course:

Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 61
AFS 200, 300, 401*; ATH 447; COM 102; EC 326, 330; ENG 205; HST 214, 215, 475; MUS 391; PLS 364; REL 235, 246, 435

*The senior research project is completed over two quarters, 2.0 each quarter for a total of 4.0.

Foreign Languages and Research Methods Requirements 24–32
Electives 43–51
Total 192

African and African American Studies Minor

The African and African American Studies minor offers students an opportunity to bring a scholar’s mind to the study of Africa and the African Diaspora (the spread of people of African descent throughout the world). An interdisciplinary curriculum enables students to gain a diverse perspective about African and African American cultures.

The minor complements all of Wright State’s undergraduate majors. It also facilitates the development of a global view that is essential for living in an increasingly multicultural society. The minor particularly promotes an understanding of
African and African American humanity, heritage, and contributions to world civilization.

Requirements for the minor can be fulfilled by selecting from course offerings in anthropology, art, economics, history, English and literature, music, political science, religion, social work, sociology, and theatre. A minimum of 20 hours is required, generally consisting of six courses from three areas: humanities (two-three courses), social sciences (two-three courses), and fine arts (one-three courses). Students must have a 2.0 GPA to enter the program and receive a grade of "C" or above in all course work taken toward the minor.

Anthropology
See Sociology and Anthropology.

Art and Art History

Professors Cantelupe (Emeritus), Caron (chair), Gebert, Macaulay
Associate Professors Cebulash, Fitch, Kiser (Emeritus), Koerlin (Emeritus), Leach, McDowell (Emeritus), Must (Emeritus), Nathanson, Vito
Assistant Professor Park

The Department of Art and Art History offers programs leading to the Bachelor of Arts and the Bachelor of Fine Arts degrees, with courses in art education, art history, drawing, painting, photography, printmaking, and sculpture; a dual B.A. degree combining art history and studio courses is also available. The B.A. degree is designed for students who wish to combine a liberal education with specific studies in art. The B.F.A. degree is designed for students who want to pursue a more intense professional studio program.

Because self-expression and self-learning are the ultimate goals of the program, students are largely responsible for determining the options that best meet their individual needs and interests. Candidates for a degree in art may prepare for graduate study, careers in teaching, or the professional practice of art.

In the studio area, studies begin with introductory courses in drawing, sculpture, and photography. These courses are designed for the beginning artist and guide the student's development in the visual arts. The program helps students expand and express their knowledge and grow in self-expression by exploring the processes and language that are basic to all visual arts. Rather than follow a system of independent courses in a given medium or discipline, students investigate issues and ideas in a variety of visual modes.

B.F.A. students are required to have their work reviewed by the entire staff. The B.F.A. review is normally conducted when students have completed between 40 and 60 credit hours in the department. Students who do not meet the basic standards of the department during their first review may petition to have a second review of their work before they complete 84 credits in art. All candidates for the B.F.A. degree must be represented in the senior exhibition.

First-year students are required to submit examples of their work only if they are seeking advanced placement; otherwise, all first-year students in art are admitted to the general curriculum.

Students who wish to teach art in Ohio public schools can pursue the B.F.A. degree in art education. Upon completion of this undergraduate degree program in the College of Liberal Arts, students then need to complete the Professional Educators Program (PEP) Master of Education degree (M.Ed.) through Wright State's College of Education and Human Services. Graduates of the B.F.A. in art and the Professional Educators Program are then eligible to seek licensure from the Ohio Department of Education in Visual Arts Pre-K–12. Requirements for admission to the PEP program include a minimum GPA, admission testing, and interviews. Throughout their undergraduate work, students should consult regularly with an advisor in the College of Education and Human Services to ensure that they are meeting the requirements of the PEP program.

Degree Requirements—Art

Bachelor of Fine Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements* 123

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 211, 212, 213 and three additional art history courses</td>
<td>24</td>
</tr>
<tr>
<td>Eight courses, two from each of the following studio areas: painting, printmaking, sculpture, and photography</td>
<td>32</td>
</tr>
<tr>
<td>Sixteen credits in drawing</td>
<td>16</td>
</tr>
<tr>
<td>Five additional courses in area of major concentration</td>
<td>20</td>
</tr>
</tbody>
</table>
Sophomore workshop (ART 200) 1
Senior seminar (ART 400) 2
Departmental studio electives 16
Departmental or related electives 8
ART 209 4
Nondepartmental Electives 13
Total 192

*B.F.A. degree students should enroll in two studio courses each quarter.

B.F.A. Review Minimum Requirements
ART 211, 212, 213 12
ART 206, 228 8
ART 207, 258 8
ART 208, 378 8
One additional studio course 4
Total 40

Degree Requirements—Art
Bachelor of Arts Degree
See General Education Requirements page 55

General Education Requirements 56
Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements* 123
ART 211, 212, 213 and three additional art history courses 24
Eight courses, two from each of the following studio areas: painting, printmaking, sculpture, and photography 32
Sixteen credits in drawing 16
Five additional courses in area of major concentration 20
Sophomore workshop (ART 200) 1
Senior seminar (ART 400) 2
Departmental studio electives 16
ART 215 4
Departmental or related electives 4
ART 209 4
Nondepartmental Requirements 15
ED 221, 223, 301, 303 12
EDS 333 3
Total 194

*B.F.A. degree students should enroll in two studio courses each quarter.

B.F.A. Review Minimum Requirements
ART 211, 212, 213 12
ART 206, 228 8

ART 207, 258 8
ART 208, 378 8
One additional studio course 4
Total 40

Degree Requirements—Art
Bachelor of Fine Arts Degree
See General Education Requirements page 55

General Education Requirements 56
Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 68
ART 211, 212, 213 and one additional art history course 16
Eight courses, two each from four of the following studio areas: drawing, painting, printmaking, sculpture, and photography 32
Departmental electives 7
Departmental studio electives 12
Sophomore workshop (ART 200) 1

Language and Research Methods Requirement 24-32
Nondepartmental Electives 36-44
Total 192

Degree Requirements—Art History
Bachelor of Arts Degree
See General Education Requirements page 55

General Education Requirements 56
Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 68
ART 211, 212, 213 12
One course each from six of the following art history areas: American, ancient-classical, medieval, museology, Renaissance, Baroque, nineteenth century, twentieth century, non-Western, or art theory and criticism 24
Three courses, one each from three of the following studio areas: drawing, painting, printmaking, sculpture, and photography 12
Art history electives 12
Departmental electives 8
Language and Research Methods Requirement 24–32
Nondepartmental Electives 36–44
Total 192

Senior Paper
After completing seven art history courses and before graduating, art history majors are required to write a senior paper under the supervision of an art history faculty member. The senior paper requires expansion or further investigation of a paper the student submitted for a 400-level course.

Degree Requirements—Art History/Art Studio

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 88
ART 211, 212, 213 12
One course each from six of the following art history areas: American, ancient-classical, medieval, museology, Renaissance, Baroque, nineteenth century, twentieth century, non-Western, or art theory and criticism 24
Two courses each from four of the following studio areas: drawing, painting, photography, printmaking, or sculpture 32
Art history electives 8
Studio electives 12

Senior Paper
After completing seven art history courses and before graduating, art history majors are required to write a senior paper under the supervision of an art history faculty member. The senior paper requires expansion or further investigation of a paper the student submitted for a 400-level course.

Art History Honors Program

The honors program in the Department of Art and Art History is designed to give students with outstanding academic ability and superior accomplishments in art history the opportunity to complete a program that encourages and recognizes their distinguished efforts. These students may earn an honors degree by completing the departmental major requirements, maintaining a high academic record, and successfully completing a senior honors project. Students are usually admitted to the program during the fourth quarter prior to graduation. Interested students can obtain information on the honors program from the Department of Art and Art History office.

Classics

Professor Gabbert (chair)
Associate Professors C. King (Emerita), W. King (Emeritus)
Assistant Professors Anderson, LaForse

The Department of Classics offers majors leading to the Bachelor of Arts degree in classical humanities and in the classical languages of Greek and Latin. The study of the classics is concerned with the civilizations of ancient Greece and Rome. It is the oldest area of study, requiring an understanding of the disciplines of language and literature, art, archaeology, and history to fully appreciate the contributions of Greece and Rome to western civilization.

Requirements for the major in classical humanities are quite flexible, but it is advisable for students to consult with the department to ensure a well-rounded curriculum. An inflexible requirement is the study of Latin or Greek at the college level. The classical humanities student must complete at least 24 hours of language study and become proficient in at least one of the languages beyond the 202 level. A student who has begun language study elsewhere, or who has experienced a lapse of more than one year in the study of the language, will be given a proficiency examination to determine the appropriate placement level. Students may also major in either Greek or Latin; these students will be expected to develop some facility in the nonmajor language.

The major in classical humanities is appropriate for students who have not decided on a specific vocation and who are interested in the humanities. A bachelor’s degree in classical humanities is suitable for students who do not plan to extend their formal education beyond the undergraduate level.
The major in one of the classical languages is more suitable for students who wish to continue their studies on the graduate level; the areas of ancient history and classical archaeology, as well as classics, are open to them. Students who major in either classical humanities or classical languages will find the bachelor's degree useful in any position for which a liberal arts degree is appropriate.

Early consultation with the Department of Classics is important for students who wish to teach Latin or Greek in secondary schools. They will also need to consult with the College of Education and Human Services for professional licensure requirements.

Degree Requirements—Classical Humanities

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements

Greek or Latin Language
Classical Humanities Electives
CLS 499
College Research Methods Requirement
Electives and Related Courses

Total

Degree Requirements—Latin

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements

Latin Language
Electives in Classical Humanities and Greek Language
CLS 499
College Research Methods Requirement
Electives and Related Courses

Total

Degree Requirements—Greek

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements

Greek Language
Electives in Classical Humanities and Latin Language
CLS 499
College Research Methods Requirement

Electives and Related Courses

Total

Classics Honors Program

Superior students may participate in the departmental honors program upon applying to the Department of Classics. They should have a GPA of 3.5 in classics and 3.0 overall and should have completed a substantial portion (27 to 30 hours) of their major requirements. Interested students should contact the department for further details.

Minor in Classical Humanities

The department also offers a minor in classical humanities. The minor is an appropriate second field for many students. The minor requires a total of 32 hours, with a minimum of 12 hours in the Greek or Latin language, and a minimum of 16 hours in classical humanities courses, eight of which must be at the 300 level or above.

Certificate in Research/Intelligence Analysis

The department administers a certificate program in Research/Intelligence Analysis, which is open to all majors and to nonmatriculated students. It is designed to prepare students for a variety of positions involving research and analytical skills, useful for employment in corporate research, national security agencies, and local law enforcement.
Course Requirements

16
RIA 400, 420, 450
CLS 300 or HST 301

Related Courses

4–6
One or two of the following courses:
CEG 478, MTH 456, EE 478, CS 419, MTH 419,
LI 371, ENG 478, or a 300-level or higher course in
foreign language, history, political science, or
conomics

Total

20–22

Students must achieve a 3.0 average in all
required courses, and at least 16 credit hours of
the required courses must be taken at Wright State
University. In addition, a comprehensive exit exam
(pass/fail) is required before the certificate can
be awarded. The examination will be similar to
common comprehensive exams, which measure the
retention, association, and assimilation of material
actually studied in each student’s program of study.
Interested students should consult the department for
further information.

Communication

Professors DeStephen, Pruett, Rickert, Sayer (chair),
Shupe (Emeritus)

Associate Professors Eakins-Reed (Emeritus), Fetzer
(Emeritus), John, Spicer, Yi

Assistant Professors Gaines, Morgan, Peplow, Rucker,
Ruminski,

Lecturers Alexander, Baxter

The Department of Communication offers
programs leading to the Bachelor of Arts degree.
Communication students gain an understanding of
human communication through the acquisition of
skills in speaking, writing, and critical thinking.

The Bachelor of Arts in communication is
suitable for students who wish to enter a
communication-related career, or for individuals
interested in personal development. The department
offers majors in mass communication, organizational
communication, and communication studies. Study
in organizational communication is appropriate for
students seeking careers in training and development
or other organizational communication specialties.
Study in mass communication is appropriate for
students interested in journalism, media management
and production, and public relations. The
communication studies program allows students to
select courses from all of the communication majors
to meet their specific needs.

The Department of Communication, in
conjunction with the Department of Sociology
and Anthropology, also offers a Bachelor of
Arts in social and industrial communication.
This degree is designed to provide an understanding
of social and communication variables that affect
organizational productivity.

The communication major can expect to take
both theoretical and practical courses, and to study
communication from both the traditional point
of view and through experience. Because of this,
students are advised to take advantage of the
communication activities in the department,
college, and university. These activities include
cable television, WWSU-FM radio station, The
Guardian (student newspaper), the Public Relations
Club, cooperative education, and involvement in
Dayton-area professional organizations.

Degree Requirements—
Communication

Bachelor of Arts Degree

The major in communication is for students
interested in personal development or a career in
education, industry, government, or the media.

Communication majors are expected to
achieve basic proficiency in communication skills
and to master the essentials of communication
theory. All communication majors must take 12
hours of required courses, as well as a minimum
of 43 additional hours in communication. All
communication majors are encouraged to participate
in communication activities outside the university.

To be admitted as majors, students must have
at least a 2.5 GPA.

See General Education Requirements page 55

General Education Requirements

Required Course:
Area VI: Any approved Liberal Arts College

Component course

Departmental Requirements

Required Courses:
COM 101, 102, 200, 400

Additional electives in major

Foreign Language and
Research Methods Requirement

Electives

Total

56
12
43
24–32
49–57
192
Communication Major Curricula

Communication Studies

The communication studies major is designed to develop broadly trained students in the liberal arts. Students are encouraged to develop their abilities as effective communicators and as informed critical receivers. The communication studies major affords students maximum freedom of choice in designing their programs of study and areas of specialization.

Communication Studies Major Requirements

Major Core Requirements:
COM 141, 152, 333, 335, 401, 449
Electives selected from other courses in the department

Mass Communication

The mass communication major is intended to provide students with an understanding of the workings of the mass media and the impact of mass communication on today's world.

Mass Communication Major Requirements

Major Core Requirements:
2 hours of COM 130 or 330 (or LA 203/205/303/305/403/405), 152, 256, 358, 411, 462
Major Core Requirements in Specialization Area
Broadcasting
COM 253, 360, 460, 464
Print Journalism
COM 364, 366, 454, 458
Public Relations
COM 345, 346, 347, 449
Visual Communication
ART 206, ART 209, COM 364, ENG 347
Electives selected from other courses in the department

Organizational Communication

The organizational communication major is intended to provide students with knowledge, skills, attitudes, and values that permit them to understand the impact of communication, messages, and structures on organizational growth and development.

Organizational Communication Major Requirements

Major Core Requirements:
COM 141, 152, 446, 447, 448
Major Electives/Choose five from the following: COM 343, 345, 346, 347, 432, 441, 443, 445, 449, 451, 453, 455, 457
Electives selected from other courses in the department

Communication Honors Program

The communication honors program provides outstanding students with opportunities to pursue advanced study. To enter the program, students must complete 40 credit hours in communication and have a GPA of 3.5 in the major and 3.0 overall. Departmental honors will be awarded when the student completes the required number of hours for a major in communication, including at least 12 credit hours in approved communication honors courses. Students must complete a departmental honors project and maintain a 3.0 cumulative GPA and 3.5 GPA in communication courses while they are in the honors program.

Minor in Communication

The communication minor is appropriate for students who want to develop additional skill in communication or who feel that an understanding of communication processes will supplement their major. The minor may be especially useful for students in business, computer science, education, and nursing, and students majoring in other areas of the liberal arts.

Communication Minor Requirements

Required Courses
COM 101, 102, 200, 400
Additional Courses in Communication
At least 16 hours must be at the 300 level or above

Criminal Justice

Director Charles Funderburk

Criminal Justice (CRJ) is an interdisciplinary Bachelor of Arts degree. The program is designed to develop knowledge of the criminal justice system, theories of criminal behavior, institutions formed to ensure public safety and enforce the law, and the law. Student core competencies will be developed and required in areas of (1) analytical and ethical decision making; (2) the use of technology; (3) methods of collecting and using data; and (4) communicating to diverse people and through diverse media.

Students admitted into the CRJ must have earned a minimum cumulative GPA of 2.3 and have completed a minimum of 24 credit hours including ENG 101 and 102, PLS 200 and 210, PSY 200, and SOC 200. Majors are required to complete five criminal justice core requirements, including an
internship: three courses in criminal justice foundation areas of behavior, institutions, and law; and three criminal justice electives.

**Degree Requirements—Criminal Justice**

**Bachelor of Arts Degree**

See General Education Requirements page 55

**General Education Requirements**

**Required Course:**
Area VI: Any approved Liberal Arts College Component course

**Criminal Justice Core Requirements**

**Required Courses:**
- PLS 442, SOC 300, SOC 306 or URS 410, URS 411, and SOC 433

**Criminal Justice Foundation Areas**

Three courses from each area:

**Behavior**
- SOC 320, SOC 330, SOC 332, URS 450, SOC 442, PLS 435

**Institutions**
- SOC 350, PLS/URS 321, PLS/URS 345, URS 420, PLS 322

**Law**
- PLS 436, PLS 437, SOC 432, PLS 342, PLS 343, PLS 340

**Criminal Justice Electives**

PLS/URS 427, URS 346, PLS/URS 446, PLS 375, PLS 440, PLS 443, SOC 313, SOC 315, SOC 332, SOC 440, SOC 459

**Foreign Language and Research Methods Requirement**

24–32

**Electives**

36–44

**Total**

192

**Minor in Criminal Justice**

The criminal justice minor is an interdisciplinary program emphasizing knowledge of the criminal justice system, theories of criminal behavior, law, administration, and policy. Courses are offered by the departments of political science, sociology, and urban affairs and geography. Students admitted into the criminal justice minor must have earned a minimum GPA of 2.3 and have completed a minimum of 24 credit hours, including ENG 101 and 102 with a grade of “C” or better, plus HST 101 and any other two General Education courses.

**Criminal Justice Minor Requirements**

**Core Requirements:**
- PLS 442
- SOC 320 or SOC 330
- SOC 306 or URS 410

**Foundation Requirements:**

(Choose two from each area)

**Behavior**
- PLS 435, 448, 472; SOC 231, 313, 315, 320, 330, 332, 442, 459; URS 450

**Institutions**
- PLS 443, PLS/URS 321, PLS/URS 345, PLS 212, PLS/URS 446, URS 420; SOC 350, 432, 440, 457

**Law**
- PLS 340, 342, 343, 375, 436, 437, 439, 440, SOC 422

**Total**

36

**Dance**

See Theatre Arts.

**Economics**

*Professors* Blair, Fichtenbaum, Olson, Premus, Renas, Sav, Swaney (chair), Traynor

*Associate Professors* Dung, Hopkins, Osborne

*Lecturer* Endres

The field of economics covers a broad range of concerns, from practical questions about how a business can improve efficiency, to the more abstract study of the limits that nature imposes on human populations and natural resources. Economics aims at improving our welfare by understanding how people make decisions when faced with relative scarcity, and by studying the complex relationships among the production, consumption, and distribution of material goods.

The economics program equips students to pursue careers in business and government, or prepares them for graduate study in economics, business, or law. Graduates of the program have achieved success as executives in a wide variety of industries and are employed as professional economists in such areas as urban economics, workforce and training analysis, business forecasting, school finance consulting, evaluating health and delivery systems, budget analysis, market consulting, government planning, banking, and statistical analysis. Some graduates continue their education in the department’s master’s program in social and applied economics.

The program outlined here is designed to give students both the background that will broaden their
future options and the specific skills necessary to apply economic ideas. This includes the ability to express economic ideas clearly and concisely. To enhance writing skills, two of the required junior level courses in the major are writing-intensive.

Departmental undergraduate advisors are available to all students who need advice about career goals, as well as about elective courses. Candidates for a Bachelor of Arts degree with a major in economics are required to take a minimum of 56 credit hours in the Department of Economics. Basic courses are supplemented by economics electives.

**Bachelor of Arts Degree**

See General Education Requirements page 55

General Education 48

Required Course: Area VI: Any approved Liberal Arts College Component Course

Departmental Requirements 56

Related Requirements 28-30

Foreign Language and Research Methods 16-24

Electives 34-44

Total 192

**Minor in Economics**

Any student in the university may earn a minor in economics. The economics minor consists of two courses in principles of economics (EC 204 and EC 205), and four economics electives at the junior or senior level (300 or 400 level courses). A grade of "C" or better must be obtained in EC 204 and EC 205. The economics electives will count as business electives for the Bachelor of Science in Business students. Students will be admitted to the economics minor after they have been admitted to their major program.

**Minor in Economics**

Principles Courses 8

EC 204 and EC 205 (Grade of "C" or higher)

Elective Courses 16

Four economics courses

Total 24

---

**English Language and Literatures**

**Professors** Bracher (Emeritus), Bullock, Cantelupe (Emeritus), N. Cary (Emeritus), Correale (Emeritus), Fleischauer (Emeritus), Harden (Emerita), Howard, Hughes (Emeritus), Hussman (Emeritus), Law, Maner, Pacer, Pringle, Sammons, Swanson (Emeritus), Whissen (Emeritus)

**Associate Professors** C. Cary (Emerita), Dobson, Gleason (Emeritus), Guthrie, Hall, Kich (WSU-Lake Campus), Limouze (chair), Loranger, MacDonald, Mack, Milligan, Molitierino (WSU-Lake Campus), Oxindine, Schwartz (WSU-Lake Campus), Seitz, Sharma

**Assistant Professors** Beumer Johnson, Crusan, Hagen (Emerita, WSU–Lake Campus), Jones, Macleod, Snyder (Emerita, WSU–Lake Campus)

**Instructors** Allen, Bertsch, Blakelock, Chesire, Cornett, Dickey, Greisel, Klausner, Rubin, Sayer, Smith

The English major provides a balanced program of introductory and advanced work in English and American literature, world literature in English, English language and linguistics, and writing. The program offers students the chance to engage in a major humanistic discipline, the study of literature, which is challenging and enriching in itself. The English major also provides sound professional training for those interested in high school or college teaching, the teaching of English as a second language, business or technical writing, or graduate work; and the program is an excellent background for students entering professional schools or planning business careers.

The English major offers five concentrations (specified below), which have been designed to meet the needs of students with a general interest in literature and those with special interests in writing or teaching. Students seeking a strong background in literature, history, theory, and analysis should take the general concentration in English, which combines the historical and critical study of literature with innovative approaches to critical methods, women’s studies, nontraditional literatures, and non-Western literature in English. The concentration in English with an emphasis on creative writing offers students a full series of introductory and advanced creative writing courses. The concentration in English with an emphasis on professional writing gives interested students a strong combination of literature and professional writing instruction, including course work in
business and technical writing and journalism. The concentration in English with an emphasis on TESOL (Teaching English to Speakers of Other Languages) provides a combination of advanced work in applied linguistics with training in current methods of language teaching.

Finally, the concentration in English with an emphasis on Integrated Language Arts offers a combination of courses in literature, communication, language study, and pedagogy for students interested in seeking licensure to teach English and language arts in middle school or high school.

In choosing electives, students should try to select, in consultation with the departmental advisor, courses that complement their major interest and form a coherent unit of study, or courses that provide an appropriate career-oriented concentration.

Degree Requirements—English

Bachelor of Arts Degree
General Concentration in English

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

English Major Requirements 56

ENG 300, 301
ENG 351 or 352, 353 or 354; 355 or 356 or 357; and one more from the ENG 351 through 359 group 16
Four of the following courses:
ENG 410, 420, 430, 440, 450, 460, 470, 480 16
Three additional 300- and/or 400-level courses 12
One course in linguistics (ENG 478 or 479) 4
Foreign Language and Research Methods Requirement 32

Electives 48

Total 192

Concentration in English with an Emphasis on Creative Writing

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

English Core Requirements 32
ENG 300, 301
ENG 351, 352, 353, 354 (one course);
ENG 355, 356, 357 (one course); and one other course from the ENG 351 through 359 group 12
Two of the following courses:
ENG 410, 420, 430, 440, 450, 460, 470, 480 8
One course in linguistics (ENG 478 or 479) 4

Creative Writing Requirements 24
Six classes in creative writing, distributed as follows:
ENG 302, 303, 304 (any two)
ENG 492, 493 (at least one)
Three more classes in creative writing
(NOTE: Any creative writing class may be taken up to three times.)

Foreign Language and Research Methods Requirement 32

Electives 48

Total 192

Concentration in English with an Emphasis on Professional Writing

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

English Core Requirements 32
ENG 300, 301
ENG 351, 352, 353, or 354 (one course);
ENG 355, 356, 357 (one course); and one other course from the ENG 351 through 359 group 12
Two of the following courses:
ENG 410, 420, 430, 440, 450, 460, 470, 480 8
One course in linguistics (ENG 478 or 479) 4

Professional Writing Requirements 24
Any six classes from:
ENG 330, 333, 343, 344, 347, 364, 400, 402, 405, 454, 458, 495

Foreign Language and Research Methods Requirement 32

Electives 48

Total 192
Concentration in English with an Emphasis on TESOL

See General Education Requirements page 55

General Education Requirements

Required Course:
Area VI: Any approved Liberal Arts College Component course

English Core Requirements

ENG 300, 301
ENG 351, 352, 353, 354 (one course);
ENG 355, 356, 357 (one course);
and one other course from the ENG 351 through 359 group

Two of the following courses:
ENG 410, 420, 430, 440, 450, 460, 470, 480

One course in linguistics: ENG 478

TESOL Requirements

ENG 481, 482, 483, 484, 487
ENG 479 or 485

Related Requirement

ED 458 or ED 460

Language Arts Requirements

ENG 341, 345, 346, 385
ENG 486

One course from the following:
ENG 347, 454, 470, 480, 483, 485

Co-Requisites

COM 101, 152, 200
COM 256 or 411
ED 221, 223, 301, 303; EDS 333

Electives

Total 192

Integrated Language Arts/English Education

Students who wish to teach English or language arts in Ohio public high schools should pursue the B.A. in English with a concentration in integrated language arts (the curriculum is listed immediately below). Upon completion of this undergraduate degree program in the College of Liberal Arts, students then need to complete the Graduate-Level Teacher Preparation Program (GLTPP) Master of Education degree (M.Ed.) through Wright State’s College of Education and Human Services. Graduates of the B.A. in English/Integrated Language Arts and the (GLTPP) are then eligible to seek licensure from the Ohio Department of Education in adolescent/young adult integrated language arts.

For admission to the major in English: Integrated Language Arts, students must present any one of the following:

- An overall GPA of 2.25 or better with grades of B or better in both ENG 300 and 301 after completion of 48 hours (a minimum of 24 hours completed at Wright State University)
- An overall GPA of 2.00 or better with a GPA of 3.30 in five courses in the English major after completion of 48 hours (a minimum of 24 hours completed at Wright State University)
- The recommendation of an English department faculty member and permission of the department chair

Requirements for admission to the (GLTPP) include a minimum GPA, admission testing, and interviews. Throughout their undergraduate work, students should consult regularly with their advisor in the College of Education and Human Services to ensure that they are meeting requirements to enter the (GLTPP).

Concentration in English with an Emphasis on Integrated Language Arts/English Education

See General Education Requirements page 55

General Education Requirements

Required Course:
Area VI: Any approved Liberal Arts College Component course

English Core Requirements

ENG 300, 301
ENG 351, 352, 353, 354 (one course);
ENG 355, 356, 357 (one course);
and one other course from the ENG 351 through 359 group

Two of the following courses:
ENG 410, 420, 430, 440, 450, 460, 470, 480

One course in linguistics: ENG 478

TESOL Requirements

ENG 481, 482, 483, 484, 487
ENG 479 or 485

Related Requirement

ED 458 or ED 460

Language Arts Requirements

ENG 341, 345, 346, 385
ENG 486

One course from the following:
ENG 347, 454, 470, 480, 483, 485

Co-Requisites

COM 101, 152, 200
COM 256 or 411
ED 221, 223, 301, 303; EDS 333

Foreign Language and Research Methods Requirement

Electives

Total 192
English Honors Program

The honors program in English is designed to encourage and recognize superior academic accomplishments by English undergraduates. With the approval of the chair of the English department and the departmental honors advisor, students who meet the eligibility standards may enter the English honors program before the beginning of their senior year. Students may be admitted to the program on the recommendation of any member of the English department faculty, or students may petition to enter the program. Under the direction of a faculty tutor, students in the honors program will complete an honors project that culminates in their writing an honors thesis or project report. For further information on eligibility and enrollment, students should consult the departmental honors advisor.

Minor in English

The minor in English is designed for students who wish to take a coherent body of courses in English and American literature. The minor combines core courses in literary history and methodology with a selection of advanced studies. Students interested in the minor should consult with the departmental advisor to determine the best courses for their needs.

English Minor Requirements 36
ENG 300, 301 8
ENG 351, 352, 353, or 354 (one course);
ENG 355, 356, or 357 (one course);
and one other course from the ENG 351
through 359 group 12
Two of the following courses:
ENG 410, 420, 430, 440, 450, 460, 470, 480 8
Two additional 300- and/or 400-level courses 8

Certificate Program in Professional Writing

A certificate in professional writing is available to all students who successfully complete six courses from a list of approved writing courses (21–23 hours total). The certificate program can supplement any of the three English concentrations or any other major. The courses in the program prepare students for careers as writers in business and related fields, as journalists, and as editors. Interested students should contact the departmental advisor or the director of writing programs for further information.

Certificate Program in Technical Writing

A certificate in technical writing is available for students with a strong scientific or technical background who wish to learn and practice the writing skills that business and science demand today. Students must complete five courses and an internship, and may take the program as a supplement to any major. Interested students should contact the departmental advisor or the director of writing programs for further information.

Certificate Program in TEFL

A certificate program in Teaching English as a Foreign Language provides the basic knowledge and skills necessary to teach English overseas. Unlike the TESOL certificate below, the TEFL certificate focuses exclusively on English as a foreign language, addressing the special circumstances and resulting challenges involved in teaching students English in their home country. Four courses and a practicum provide the requisite knowledge in language, theory, culture, and classroom teaching of English abroad. The TEFL certificate is open to any major or nondegree student who has completed ENG 102. Interested students should contact their department advisor or the director of TESOL programs for further information.

Certificate Program in TESOL

The English department offers a certificate program in Teaching English to Speakers of Other Languages. Five courses and a practicum provide the requisite knowledge of linguistics and TESOL theory and methods. Interested students should contact their departmental advisor or the director of TESOL for further information. For information about the Endorsement in TESOL, the public school credential, interested students should contact the College of Education and Human Services or the director of TESOL.

Geography

See Urban Affairs and Geography.

History

Professors Becker (Emeritus), Dorn, Haas, Spetter
Associate Professors Arbagi, Carrafiello, Carlson (WSU–Lake Campus), Garner, Green, Lockhart, McLellan, Melton, Sherman, Sumser, Vice, Yuan (Emeritus)
Assistant Professor Engelhardt, Meyer, Wachtell (chair)
Instructor Oldstone-Moore
The undergraduate major in history exposes students to a broad spectrum of human experience in the past and present, arming them with an understanding of the self and of their relationship to other human beings and to the structure of society. History students are encouraged to further their knowledge of the principal developments and problems of history, and to enrich their understanding of historical evolution through research and writing. Through elective courses in other departments, students gain a broad liberal arts education and enlarge their historical perspective. The history major can thus be used generally by students who wish to be useful members of the community, and specifically by students who seek careers in teaching, journalism, library and archival work, government, politics, law, and business. The program also provides a sound basis for students planning to pursue graduate study.

Students in the history program are assigned an academic advisor who assists them with academic routines, selecting individual courses, and developing undergraduate and postgraduate goals. Students interested in careers in law, public service, journalism, or business should consult with the advisor about departmental programs particularly geared to these fields.

majors are expected to maintain at least a 2.0 GPA in history for graduation.

**Degree Requirements—History**

**Bachelor of Arts Degree**

See General Education Requirements page 55

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses:</td>
<td></td>
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<tr>
<td>HST 101, 102, 103 (any two)</td>
<td></td>
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<tr>
<td>Recommended Course:</td>
<td></td>
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<tr>
<td>Area VI: HST 200, 220 or 221</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Departmental Requirements</th>
<th>54</th>
</tr>
</thead>
<tbody>
<tr>
<td>HST 211 and 212</td>
<td>6</td>
</tr>
<tr>
<td>HST 400 (Historiography)</td>
<td>4</td>
</tr>
<tr>
<td>HST 401 (Methods Seminar)</td>
<td>4</td>
</tr>
<tr>
<td>U.S. History (upper division)</td>
<td>8</td>
</tr>
<tr>
<td>European History (upper division)</td>
<td>8</td>
</tr>
<tr>
<td>Asian, African, Latin American History (upper division)</td>
<td>8</td>
</tr>
<tr>
<td>Related Electives (upper division)</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Foreign Language and Research Methods Requirement</th>
<th>24-32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>50-58</td>
</tr>
</tbody>
</table>

**Total** 192

**History Honors Program**

The honors program allows qualified students to carry out independent research under the guidance of a faculty sponsor. Departmental honors are awarded at graduation based on the student’s completing the following: at least one interdisciplinary honors seminar; a 3.5 GPA in history and a 3.0 GPA in overall course work; completion of an honors thesis with a grade of “A” or “B”. In exceptional cases, certain requirements may be waived by a vote of the departmental curriculum committee. Interested students should consult with the departmental advisor.

**Minor in History**

The minor in history will benefit students majoring in disciplines such as religion, classics, political science, and literature. Students minoring in history will acquire the historical background and learn the critical and analytical techniques used by historians.

The history minor consists of 30 hours of course work, excluding courses taken for General Education.

<table>
<thead>
<tr>
<th>Departmental Requirements</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>American history: HST 211, 212</td>
<td>6</td>
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<tr>
<td>Three upper division courses, one each in the following:</td>
<td></td>
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<tr>
<td>American history</td>
<td></td>
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<tr>
<td>European history</td>
<td></td>
</tr>
<tr>
<td>Asian, African, or Latin American history</td>
<td></td>
</tr>
<tr>
<td>Twelve hours of upper division course work</td>
<td>12</td>
</tr>
<tr>
<td>in areas of the student’s choice to be selected in consultation with an advisor</td>
<td></td>
</tr>
</tbody>
</table>

**International Studies**

*Director* December Green

The international studies major offers students the opportunity to study international politics, economics, culture, and society. The major combines intensive study of a foreign language with an interdisciplinary curriculum of study chosen by a student in consultation with a faculty advisor. The Bachelor of Arts degree program in international studies consists of three parts: three years of study of one foreign language; the major core courses, which include introductory work in art history, economics, geography, political science, and religion or women’s studies; and work in a specialized track.
The specialized tracks in the international studies major provide six options: international diplomacy, area studies, comparative cultures, international economics, global gender studies, and research/intelligence analysis. The international diplomacy and peace studies track includes courses in political science, communication, and history. The area studies track allows students to focus on a global region (e.g., Africa or Latin America) and includes classes in anthropology, history, humanities, and political science. The comparative cultures track includes courses from anthropology, classics, English, history, humanities, philosophy, political science, and religion. The international economics track focuses on global economic concerns, with supporting course work in history, political science, and sociology. The global gender studies track incorporates a gender-analysis approach to diplomacy, area studies, comparative cultures, and international economics. The research/intelligence track combines course work in research methods, ethics, and a variety of disciplines to assist those interested in international affairs to work in data analysis.

Study abroad opportunities in Australia, Chile, Costa Rica, Denmark, England, France, Germany, Ireland, Israel, Italy, Japan, Malta, New Zealand, Scotland, Spain, Thailand, and elsewhere are available through the University Studies Abroad Consortium, of which Wright State is a member. Study abroad and cultural exchange can be arranged through the University Center for International Education, E190 Student Union.

Although this is not a requirement for an international studies degree, students will find that studying abroad will greatly enrich their educational experience, as will exposure to a foreign culture and peoples. In order to have adequate language preparation, students interested in studying abroad should design their course of study well in advance of their trip.

Students interested in careers in government, international business, teaching, or journalism should contact the director of the international studies major. The major program also provides sound preparation for students interested in graduate work in law, the humanities, or the social sciences.

### Degree Requirements—International Studies

#### Bachelor of Arts Degree

See General Education Requirements page 55

**General Education Requirements** 56

**Required Course:**
- Area VI: Any approved Liberal Arts College Component course

**Foreign Language and Research Methods Requirements** 44
- Twelve hours minimum at the 300 level, or demonstrated proficiency at the level of 312, 322, or 325 and three research methods courses.

**Major Core Requirements** 19
- Art History, 1850—
- Comparative Economics
- World Geography
- International Politics
- World Religions
- Women’s Studies

**Major Specialized Track** 28–58
- Total course work in the core and specialized tracks may not exceed 76 hours. Course work numbered 300 or above should be emphasized. Close consultation with and approval of the major advisor is required. Choose one:
  - International Diplomacy and Peace Studies
  - Area Studies
  - Comparative Cultures
  - International Economics
  - Global Gender Studies
  - Research/Intelligence Analysis

**Total (core and specialized track)** 47–77

**Electives** 15–45

**Total (minimum)** 192

### National Honor Society

International studies majors may become eligible for election to Phi Beta Delta, the honor society for international scholars. For more information, interested students should see the director of the program.
Liberal Studies

Director R. Mark Sirkin

Wright State’s liberal studies major allows students to tailor their academic program to their needs and interests across a wide range of disciplines. This program is designed for students seeking a more interdisciplinary educational experience than is available with other majors.

The liberal studies degree prepares students for a variety of careers. The program can serve as a pre-law curriculum. English, communication, political science, and history courses can help prepare students for careers in journalism or other media. Fine arts courses can be combined with other disciplines to prepare people for careers working in museums or art galleries in research, marketing, or management capacities. Others could use the degree to prepare for careers in library science or in the publishing industry. Because students select from a range of disciplines to individualize their programs, there are many other career possibilities.

The Bachelor of Arts in liberal studies focuses on the core competency areas of communication, critical thinking, understanding society, and self-understanding. Students will complete eight hours each in the humanities, fine arts, and social sciences, and then select one of those three as an area of concentration. With help from a faculty advisor, students may choose courses from a variety of disciplines.

This program requires extensive advising and the development of a program of study. Some departments may have specific entrance/audition requirements.

Degree Requirements—Liberal Studies

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Foreign Language Requirement 20

Research Methods Requirement 12

Major Requirements (see below) 60

Related Requirements

Professional Component 12
Interdisciplinary Studies 8
Electives 24

Total (minimum) 192

Major Requirements

Core (24 hours): Eight hours in each of the three Liberal Arts areas of specialization: humanities, fine arts, and social sciences. In general, the fine arts area includes courses offered by the departments of art and art history, music, and theatre arts. The humanities area consists of classics, communication, English, history (which can also be classified as a social science), modern languages, philosophy, and religion. The social science departments are economics, political science, social work, sociology/anthropology, and urban affairs/ geography.

Concentration (36 hours): These are upper division courses from within one of the three constituencies. Two of these courses must be writing intensive. These 36 hours may constitute a minor (or equivalent) within a single or several disciplines within the constituency. (At this point, the student’s academic advisor should be from a department within the constituency or in the department offering the minor being sought.)

Related Requirements

Professional Component (12 hours):
These are courses that will enhance a liberal studies major’s chances for employment or career advancement, such as courses in business, communication, computer science, education, public administration, etc.

Interdisciplinary Studies (8 hours): These are courses in African and African American studies, international studies, women’s studies, and other courses of a multidisciplinary nature. These will be selected from a list of courses approved by the liberal studies program director.

Electives (24 hours)

These are courses selected by each student. Included here are any prerequisites needed for courses in the core, concentration, or related requirements.
Modern Languages

Professors Garrison (chair), Hye, Petreman
Associate Professor O’Brien
Assistant Professors Bonch-Bruevich, Broughton, Halling
Lecturer Douglas
Instructors Alvarez, Carrero, Cipriano-Risner, Dona. Galbraith

The Department of Modern Languages offers majors in French, German, Spanish, and Modern Languages (a combination of three languages), along with collaborative majors in International Business and International Studies. Students can minor in French, German, or Spanish, and they can take classes in Arabic, Chinese, Italian, Japanese, Portuguese, and Swedish.

The university has foreign study programs in Brazil, Chile, China, Costa Rica, Denmark, France, Germany, Japan, Mexico, Spain, Sweden, and other countries; the department strongly encourages its majors and minors to spend some time abroad. Different programs allow students to study from three weeks to an entire year in a foreign country.

Language courses offered by the department combine training in oral and written language proficiency with study of the culture and literary heritage of countries other than our own. Graduates, especially if they have additional training in another discipline, will be prepared for a wide variety of careers. The department also offers applied language courses such as Business French/German/Spanish to help students enhance their career opportunities.

Students who wish to teach French, German, or Spanish in Ohio public schools earn the Bachelor of Arts degree in the respective major and then take a graduate teacher preparation program through the College of Education and Human Services at Wright State or at another university. Requirements for admission to the WSU program, which currently only offers preparation in two languages (French and Spanish), include a minimum grade point average of 2.7, admission testing, and interviews. Graduates are eligible for the Multi-Age License through the Ohio Department of Education.

Master of Education: Classroom Teacher, Modern Languages

Currently credentialed teachers may wish to pursue the degree of “Master of Education: Classroom Teacher, Modern Languages” through Wright State’s College of Education and Human Services. This degree requires 48 graduate credit hours of study, half of them in education and half of them in modern languages.

Undergraduate Language Requirement, College of Liberal Arts

Students majoring in all Bachelor of Arts programs within the College of Liberal Arts must complete a sequence of courses in a foreign language (Chinese, French, German, Greek, Latin, Portuguese, or Spanish) through the 202 level, demonstrate proficiency at the 202 level through examination, or take a six-quarter sequence of courses in American Sign Language (RHB 101, 102, 103, 228, 229, 230). Students with no foreign language background will take 101, 102, 103, 201, and 202; those who have studied a foreign language previously can place into this sequence at their skill level (see information below on placement tests). Each course in the sequence is the prerequisite for the next one, so once students start the sequence, they may skip ahead only with permission from their professor and the department chair.

Students who graduated from high school before 1987 are only required to take language classes through 103 or demonstrate proficiency at that level.

High School Deficiencies

Wright State students in majors that do not normally require study of a foreign language must take three quarters of a language if they did not pass at least two years of one in high school.

Placement

Students may take a free computerized placement test in the department office (325 Millett) or the language lab (303 Millett) to determine the appropriate starting point for them within the sequence of language courses. The test takes about 20 minutes and it can be taken at any time during normal business hours, Monday through Friday.

Generally, students with up to two years of foreign language in high school place into 101, 102, or 103. Those who have studied for three or more years in high school and received grades of “B” or better generally place into 201 or 202.

Proficiency Credits in French, German, and Spanish

Proficiency credit in French, German, and Spanish may be earned in two areas: 300-level conversation courses (4 credit hours) and 300-level composition courses (8 credit hours).

Proficiency in Languages other than French, German, and Spanish

Students who claim a language other than English as their native language may complete their
foreign language requirement by taking one of several 300-level English courses (ENG 350—ENG 359) or by taking a proficiency exam administered by that department. These students should contact the English Department for further information.

Native speakers who would like to take a proficiency examination in a language other than English, French, German, or Spanish, may do so elsewhere by agreement with the department. It is the responsibility of students to arrange for such tests.

Degree Requirements—French

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 66

FR 201, 202, 203, 311, 312, 313 24
FR 321, 322, 323, 331, 332 20
FR 361 2
French Electives (300- and 400-level courses) 20

College Research Methods 12

Related Requirements 16

CPL 310 4
ML 301, 302, 303, 304, 305, 306 8
(Students should choose the culture course related to their field plus at least one other culture course.)
ML 311, 312, 313, 314, 315, 316 4
(Students should choose one literature-in-translation course outside their own field.)

Electives 42

Total 192

Degree Requirements—Spanish

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 62

SPN 201, 202, 203, 311, 312 20
SPN 321, 322, 323, or 325 12
SPN 331, 332, 333, 334, 361 18
Spanish electives (300- and 400-level courses) 12

College Research Methods 12

Related Requirements 20

CPL 310 4
LI 371 4
ML 301, 302, 303, 304, 305, 306 8
(Students should normally choose the culture course related to their field plus at least one other culture course; however, if they are headed for a teaching career, they should choose both Spanish and Spanish-American culture.)
ML 311, 312, 313, 314, 315, 316 4
(Students should choose one literature-in-translation course outside their own field.)

Electives 42

Total 192

Degree Requirements—German

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 60

GER 201, 202, 203, 311, 312 20
GER 321, 322, 331, 332 16
German Electives (300- and 400-level courses) 24

College Research Methods 12

Related Requirements 20

CPL 310 4
LI 371 4
ML 301, 302, 303, 304, 305, 306 8
(Students should choose the culture course related to their field plus at least one other culture course.)
ML 311, 312, 313, 314, 315, 316 4
(Students should choose one literature-in-translation course outside their own field.)

Electives 42

Total 192
Degree Requirements—Modern Languages

Bachelor of Arts Degree

The degree in Modern Languages is a combination of at least three languages: 36 credit hours in a primary field and 36 credit hours in a secondary field. A primary field is a concentration in French, German, or Spanish; a secondary field is any combination of languages the department offers other than the one selected for the primary field, but at least one of the second languages must be pursued through the 203 level. First-year courses will not be counted toward the primary field but may be used to fulfill the requirements for the secondary field. The primary field must include at least two courses at the 400 level.

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 76
(at least three languages)

Primary language (example)
FR 201, 202, 203, 311, 312, 321, 322, 403, 452 40

Secondary language (example)
SPN 101, 102, 103, 201, 202, 203 24
GER 101, 102, 103 12

College Research Methods 12

Related Requirements 20

CPL 310 4
LI 371 4
ML 301, 302, 303, 304, 305, 306 8
(Students should choose the culture course related to their field plus at least one other culture course.)
ML 311, 312, 313, 314, 315, 316 4
(Students should choose one literature-translation course outside their own field.)

Electives 28

Total 192

Cultural Proficiency Requirement
Each student wishing to graduate with a major in the Department of Modern Languages is required to pass a test based on the department’s cultural handbook. This booklet of basic facts about French, Francophone, German, Spanish, and Latin American culture is presented to all students when they declare a major in the department. The test is given on the first Friday of every quarter and may be taken any quarter. The minimum passing grade is 93 percent.

Modern Language Minors—French, German, Spanish

A minor in a foreign language greatly enhances a student’s career prospects. Minors are offered in French, German, and Spanish. They require a minimum of 32 credit hours selected from courses at the 200 level or above (excluding LI 371, FR 361, and SPN 361). A minor in Spanish, for example, might consist of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 201, 202, 203</td>
<td>12</td>
</tr>
<tr>
<td>SPN 311, 312</td>
<td>8</td>
</tr>
<tr>
<td>SPN 321, 322, 323</td>
<td>12</td>
</tr>
</tbody>
</table>

Total 32

A student beginning the program above the 200 level need take only five courses at the 300 or 400 level for a minor.

Motion Pictures

See Theatre Arts.

Music

Professors Bland, Dregalla (chair)
Associate Professors Booth, Dahlman, Ellis, Jagow, Larkowski, Laws, Leung, Nelson, Paul, Tipps, K. Warrick
Assistant Professors Cha, Payne, Taylor
Instructors Harley, D. Warrick

The Department of Music offers a four-year curriculum designed for students who wish to pursue a career in music. As a full member of the National Association of Schools of Music, the department has designed the requirements for entrance and graduation according to the published regulations of that association. The Bachelor of Music degree is offered with majors in performance, music education, and music history and literature; the Bachelor of Arts degree is offered with a major in music. A Master of Music degree with a major in music education and a Master of Humanities degree are also offered. Because of the highly individualized nature of the various programs, students are required to consult with an advisor to plan their major program.

In addition to fulfilling university admissions procedures, prospective music majors must also complete a departmental application for an audition, perform a satisfactory audition in a major performance area, and meet with an assigned advisor from the music faculty for counseling.
and registration. Transfer students must submit a transcript of all previous work in addition to completing the above steps. A minimum of one year of full-time study is required of all transfer students working toward a degree.

The department has developed a course of study based on four levels of technical proficiency, musicianship, and repertoire in all areas of applied music. Students should consult regularly with their applied music instructors and advisors to ensure progress through the various levels. Students enrolled in applied music courses are required to attend a specified number of recitals, concerts, and other approved performances. Solo recital performances are also required of music majors. For information regarding applied music requirements and keyboard proficiency requirements, students should refer to the Undergraduate Studies in Music student handbook.

Because of the cost of individual instruction, special quarterly fees are charged for applied music and, in certain cases, for accompanists. Applied music is also available to nonmajors on a limited basis and subject to instructor availability. A rental fee is charged for use of university-owned instruments in class instruction. There is no charge for use of these instruments in university ensembles.

All music degree programs require a minimum number of hours for graduation. A detailed, four-year curriculum outline for each major program is available in the Department of Music office.

All students in the university, as well as members of the community, are eligible to participate in performing groups. Some groups require individual auditions; prospective members should consult the various conductors to arrange auditions. The following instrumental groups are available: University-Community Orchestra, Chamber Orchestra, Concert Band, Wind Symphony, Chamber Players, Pep Band, Clarinet Choir, Saxophone Quartet, Brass Choir, and Jazz Band. Choral groups include the University Chorus, Men’s Chorale, Women’s Chorale, Chamber Singers, and Paul Laurence Dunbar Chorale. Students majoring in other academic areas and members of the community may also take music courses especially designed for the nonmusic major.

Degree Requirements—Performance

Bachelor of Music Degree

The department offers majors in the following areas of performance: bassoon, clarinet, classical guitar, euphonium or baritone horn, flute, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, violoncello, and voice. With departmental permission, students may major in fields other than those listed. Students must study continuously in their chosen disciplines until they meet all graduation requirements, including satisfactory public performance of specified recitals during the junior and senior years.

Each music performance major is required to participate in at least one university ensemble related to the student’s applied music concentration during each quarter in which the student is enrolled full time. Assignment to an ensemble is made by the director of bands, director of choral studies, or director of orchestral studies; the appropriate ensemble director; and the student’s full-time applied instructor. When the student’s applied instructor is not a full-time faculty member, approval must be given by the chair of the student’s applied board.

To be eligible for the Bachelor of Music degree, the performance major must have a minimum cumulative GPA of 3.0 in the major performing medium and a 2.0 in all other required music courses.

See General Education Requirements page 55

General Education Requirements 56

Required Substitutions:

Area IV: MUS 121, 122 4

Required Course:

Area VI: CST 242 (Music in NW Culture) 4

Departmental Requirements 87

Music Theory: MUS 101, 102, 103, 201, 202, 203 18

Sight-Singing: MUS 151, 152, 153, 251, 252, 253 6

Computer Applications: MUS 465 3

Form and Analysis: MUS 342 3

Music History: MUS 311, 312, 313 9

Large Ensemble 1 12

Applied Music 2 36

1 As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student’s applied teacher.

2 Applied Music Credit Hours

Freshman: 2/2/2 Sophomore: 2/2/2


Performance Area Requirements 54–58

Vocal Performance 58

Keyboard: MUS 155, 156, 157, 255, 256, 257, 355, 356, 357 9

Opera: MUS 420 (4 quarters) 8

Basic Conducting: MUS 335 2

Vocal Pedagogy: MUS 443, 444 4

Vocal Literature: MUS 455, 456, 457 9

Italian 8

German or French 8

Pronunciation of Foreign Language: MUS 261, 262 4

Electives 6
### Piano Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Piano Literature: MUS 451, 452, 453
- Foreign Language
- Electives

### Percussion Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Advanced Music Literature: MUS 435
- Orchestra
- Jazz Ensemble
- Chamber Ensemble
- Electives

### Organ Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Advanced Music Literature: MUS 435
- Foreign Language
- Voice
- Electives

### Guitar Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Advanced Music Literature: MUS 435
- Secondary Instrument
- Electives

### String Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Advanced Music Literature: MUS 435
- Chamber Ensemble/Orchestra/Jazz Ensemble
- Secondary Instrument
- Electives

### Woodwind Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Advanced Music Literature: MUS 435
- Chamber Ensemble/Orchestra/Jazz Ensemble
- Secondary Instrument
- Electives

### Brass Performance
- Keyboard: MUS 155, 156, 157, 255, 256, 257
- Chamber Music: MUS 205
- Basic Conducting: MUS 335
- Pedagogy: MUS 441, 442
- Counterpoint: MUS 301
- Orchestration: MUS 343
- Advanced Music Literature: MUS 435
- Jazz Ensemble
- Secondary Instrument
- Electives

### Degree Requirements—Music Education
#### Bachelor of Music Degree
Students who major in music education may choose either an instrumental or a vocal-general music curriculum. Upon completing the requirements of the music education program, students are able to apply for teaching licensure. To be eligible for the Bachelor of Music degree, music education majors must have a minimum cumulative GPA of 3.0 in required music education courses and a 2.5 GPA in all other required music courses. An overall minimum cumulative GPA of 2.5 is required.

Students planning to major in music education will be placed in the “Music: Unspecified” category until the following requirements have been met: (a) satisfactory completion of MUS 101, 102, 151, 152, 155, 156, and two quarters of applied concentration and ensemble study; (b) minimum grade of “C” in applied and ensemble studies for two consecutive quarters; (c) no failing grade in music courses during two consecutive quarters; and (d) minimum cumulative GPA of 2.5 in total course work after the completion of 30 quarter hours.

Each music education major is required to participate in at least one university ensemble related to the student’s applied music concentration during each quarter in which the student is enrolled full time, with the exception of the quarter in which the student is student teaching. Assignment to an
ensemble is made by the director of bands, director of choral studies, or director of orchestral studies; the appropriate ensemble director; and the student’s full-time applied instructor. When the student’s applied instructor is not a full-time faculty member, approval must be given by the chair of the student’s applied board.

Three hundred hours of field observation and clinical experiences are required prior to student teaching.

During the senior year, all students will perform in student recitals two or three times for a total of 25 to 30 minutes. With the approval of the studio teacher and the applied music board, students may present a half recital or a full recital in lieu of this requirement.

See General Education Requirements page 55

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Substitutions:</td>
<td></td>
</tr>
<tr>
<td>Area IV: MUS 121, 122</td>
<td>4</td>
</tr>
<tr>
<td>Required Course:</td>
<td></td>
</tr>
<tr>
<td>Area VI: CST 242 (Music in NW Culture)</td>
<td>4</td>
</tr>
<tr>
<td>Professional Education</td>
<td>28–30</td>
</tr>
<tr>
<td>EDS 221, 223, 301, 303, 419, 429, 432, 440, EDS 333</td>
<td></td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>72</td>
</tr>
<tr>
<td>Music Theory: MUS 101, 102, 103, 201, 202, 203</td>
<td>18</td>
</tr>
<tr>
<td>Sight-Singing: MUS 151, 152, 153, 251, 252, 253</td>
<td>6</td>
</tr>
<tr>
<td>Computer Applications: MUS 465</td>
<td>3</td>
</tr>
<tr>
<td>Form and Analysis: MUS 342</td>
<td>3</td>
</tr>
<tr>
<td>Music History: MUS 311, 312, 313</td>
<td>9</td>
</tr>
<tr>
<td>Large Ensemble</td>
<td>11</td>
</tr>
<tr>
<td>Applied Music 2</td>
<td>22</td>
</tr>
</tbody>
</table>

1 As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student’s applied teacher.

2 Not taken during the quarter of student teaching.

<table>
<thead>
<tr>
<th>Related Requirement</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 101</td>
<td>3</td>
</tr>
</tbody>
</table>

One of the following programs: 36–38

<table>
<thead>
<tr>
<th>Instrumental/Band</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboard 1: MUS 155, 156, 157</td>
<td>3</td>
</tr>
<tr>
<td>Orchestration: MUS 343</td>
<td>2</td>
</tr>
<tr>
<td>Elementary Music Education: MUS 328</td>
<td>3</td>
</tr>
<tr>
<td>Basic Conducting: MUS 335</td>
<td>2</td>
</tr>
<tr>
<td>Instrumental Conducting: MUS 336, 337, 338</td>
<td>6</td>
</tr>
<tr>
<td>Instrumental Music Education: MUS 323, 324, 325</td>
<td>6</td>
</tr>
<tr>
<td>Woodwind Methods: MUS 227, 228</td>
<td>2</td>
</tr>
<tr>
<td>Brass Methods: MUS 224, 225</td>
<td>2</td>
</tr>
<tr>
<td>String Methods: MUS 215</td>
<td>1</td>
</tr>
<tr>
<td>Percussion Methods: MUS 231</td>
<td>1</td>
</tr>
<tr>
<td>Voice Class: MUS 145</td>
<td>1</td>
</tr>
</tbody>
</table>

| Choir               | 2 |
| Chamber Music: MUS 205 | 3 |
| Electives 1, 2       | 3 |

1 For keyboard majors, substitute MUS 357 (or proficiency), electives five (instead of three)

2 Meet concurrently

<table>
<thead>
<tr>
<th>Instrumental/Orchestra</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboard 1: MUS 155, 156, 157</td>
<td>3</td>
</tr>
<tr>
<td>Orchestration: MUS 343</td>
<td>2</td>
</tr>
<tr>
<td>Elementary Music Education: MUS 328</td>
<td>3</td>
</tr>
<tr>
<td>Basic Conducting: MUS 335</td>
<td>2</td>
</tr>
<tr>
<td>Instrumental Conducting: MUS 336, 337, 338</td>
<td>6</td>
</tr>
<tr>
<td>Instrumental Music Education: MUS 323, 324, 325</td>
<td>6</td>
</tr>
<tr>
<td>Elementary Woodwind Methods: MUS 229</td>
<td>1</td>
</tr>
<tr>
<td>Elementary Brass Methods: MUS 226</td>
<td>1</td>
</tr>
<tr>
<td>String Methods: MUS 215, 216</td>
<td>2</td>
</tr>
<tr>
<td>Percussion Methods: MUS 231</td>
<td>1</td>
</tr>
<tr>
<td>Voice Class: MUS 145</td>
<td>1</td>
</tr>
<tr>
<td>Choir</td>
<td>2</td>
</tr>
<tr>
<td>Chamber Music: MUS 205</td>
<td>3</td>
</tr>
<tr>
<td>Electives 1, 2</td>
<td>3</td>
</tr>
</tbody>
</table>

1 For keyboard majors, substitute MUS 357 (or proficiency), electives five (instead of three)

<table>
<thead>
<tr>
<th>Vocal/Choral</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboard 1: MUS 155, 156, 157</td>
<td>3</td>
</tr>
<tr>
<td>Vocal Pedagogy: MUS 441,442</td>
<td>2</td>
</tr>
<tr>
<td>Basic Conducting: MUS 335</td>
<td>2</td>
</tr>
<tr>
<td>Choral Conducting: MUS 339, 340, 341</td>
<td>6</td>
</tr>
<tr>
<td>Choral Music Education: MUS 327, 329, 330</td>
<td>2</td>
</tr>
<tr>
<td>Elementary Woodwind Methods: MUS 229</td>
<td>1</td>
</tr>
<tr>
<td>Elementary Brass Methods: MUS 226</td>
<td>1</td>
</tr>
<tr>
<td>String Methods: MUS 215</td>
<td>1</td>
</tr>
<tr>
<td>Percussion Methods: MUS 231</td>
<td>1</td>
</tr>
<tr>
<td>French Diction: MUS 261</td>
<td>2</td>
</tr>
<tr>
<td>German Diction: MUS 262</td>
<td>2</td>
</tr>
<tr>
<td>Elective:</td>
<td>3</td>
</tr>
</tbody>
</table>

1 For keyboard majors, substitute MUS 111,112,113; MUA (voice, six quarters) six, MUS 357 (or proficiency)

Total: 195–199

Music History and Literature

The major in music history and literature is not a terminal degree, and students should expect to continue at the graduate level. Therefore, students should consult with the appropriate faculty advisor before entering.

Students planning to pursue this major will be placed in the “Music: Unspecified” category until the following requirements have been met: a minimum grade of “C” in MUS 121 and completion of MUS 103 and 153.
Students majoring in music history and literature must complete level III in the applied music concentration and pass all keyboard proficiency requirements. Students must maintain a minimum cumulative GPA of 3.0 in required major courses, and 2.0 in other required music courses. Senior students are required to complete a senior project. The project may consist of an extensive written research paper or a scholarly lecture or lecture/recital.

Degree Requirements—Music History and Literature

Bachelor of Music Degree

See General Education Requirements page 55

General Education Requirements

Required Substitutions:
Area IV: MUS 121, 122

Required Course:
Area VI: CST 242 (Music in NW Culture)

Music Theory: MUS 101, 102, 103, 201, 202, 203
Sight-Singing: MUS 151, 152, 153, 251, 252, 253
Computer Applications: MUS 465
Form and Analysis: MUS 342
Music History: MUS 311, 312, 313

Large Ensemble 1

1 As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student's applied teacher.

Area Requirements

Basic Conducting: MUS 335
Introduction to Research: MUS 314
Counterpoint: MUS 301
Orchestration: MUS 343
Advanced Music Literature: MUS 435
Independent Study (Senior Project): MUS 481
Foreign Language
Applied Music
Electives

Plus Either:
Instrumental/Vocal Track
Keyboard: MUS 155, 156, 157, 255, 256, 257

or

Keyboard Track
Keyboard: MUS 257
Secondary Voice/Instrument

Total

Degree Requirements—Music

Bachelor of Arts Degree

The Bachelor of Arts degree in music is designed for students who want to study music, but do not necessarily plan a professional career in music. Students will get a much broader, more general education than students seeking a Bachelor of Music degree. Required courses are kept to a minimum. Consequently, students must work closely with an advisor in selecting course electives. For graduation, students must complete the 200 level in the applied music concentration.

See General Education Requirements page 55

General Education

Required Substitutions:
Area IV: MUS 121, 122

Required Course:
Area VI: CST 242 (Music in NW Culture)

Music Theory: MUS 101, 102, 103, 201, 202, 203
Sight-Singing: MUS 151, 152, 153, 251, 252, 253
Computer Applications: MUS 465
Music History: MUS 311, 312, 313
Applied Music
Introduction to Research: MUS 314
Large Ensemble I

1 As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student's applied teacher.

Either:
Keyboard Track
Music Electives

or

Vocal/Instrumental Track
Keyboard: MUS 155, 156, 157
Music Electives

Other Requirements

Research Methods
Foreign Language (at 202 level)
Electives (as appropriate) to a total of 192 hours

Music Honors Program

The Department of Music encourages students who have demonstrated superior academic ability to participate in the music honors program. In order to enter the program, students must be juniors or seniors with a cumulative 3.0 GPA and a 3.5 GPA in music. For additional information, students should contact the department chair.
Minor in Music

Music Theory: MUS 101, 102, 103 9
Sight Singing: MUS 151, 152, 153 3
Music History: MUS 121, 122 4
Keyboard: MUS 155, 156, 157 3
Applied Music 1 3–6
Large Ensemble 2 6
Music Electives 6

Total 34–37

Philosophy

Professors Irvine, Taylor (chair)
Associate Professors Farmer, Hough (Emeritus)
Assistant Professors Wilson, Beechick (Emeritus)

The philosophy major is designed to encourage clear and logical thinking. Philosophy develops students' ability for critical evaluation through analysis and increases students' cultural experience by acquainting them with the more important philosophic writings.

The 52 hour requirement in the major affords a great deal of flexibility: it enables students to employ numerous options in other disciplines to prepare for different professional objectives, while also developing a broad understanding of our society and culture. It is to the major's advantage to pursue courses in other fields, since philosophy, by its very nature, is interrelated with all disciplines. Many academic departments include, within their own curricula, courses in the philosophy of their disciplines. Furthermore, philosophical questions can arise during one's investigation of any specific field.

Because of differences in student interests and the ready availability of electives, each student follows an individualized program in consultation with an advisor. Such a program permits concentration in cognate fields and encourages exploration and self-discovery.

Because the required courses in philosophy are designed to emphasize basic issues confronting our civilization, the philosophy major is excellent preparation for those who seek a well-rounded liberal education; for those who intend to pursue further training in professional disciplines such as law, medicine, and theology; and for those who plan advanced study in philosophy.

Philosophy majors who have demonstrated excellent ability in philosophy courses may be eligible for the rigorous departmental honors program. Interested students may obtain further information from the departmental office.

Degree Requirements—Philosophy

Bachelor of Arts Degree

See General Education Requirements page 55

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 52

Language and Research Methods Requirement 24–32

Electives and Related Courses 52–60

Total 192

Minor in Philosophy

The minor in philosophy is a perfect complement to majors in departments throughout the university. Historically, Wright State students studying pre-law, English, mathematics, psychology, pre-med, communication, music, religion, film, and art have taken numerous philosophy courses for their electives. In addition to providing a basic background in the history of philosophy and in logic, the minor allows students to design individualized concentrations in areas such as medical ethics, the philosophy of science, applied philosophy, the philosophy of art and culture, the philosophy of law, or political philosophy.

The minor may be earned by completing the following requirements:

Philosophy Minor 32 *

Required Courses 16

PHL 215, 223 or 323 (4 hrs.)

PHL 301, 302 and 303** (12 hrs.)

Electives 16

* 20 credit hours minimum of 300–400 level courses
** Or approved substitutions in the history of philosophy
Political Science

Professors Fitzgerald, Funderburk, Moore, Nord, Schlagheck (chair), Walker (Emeritus)
Associate Professors Adams, Green, Sirkin, Snipe
Assistant Professor Anderson, Luehrmann, Feldmeier
Instructors Dixon, Myers, Nisley

Students of political science study governments: how they evolve, why they exist, the forms and social functions they assume, why they change, and who controls them. To understand governments, students of political science also study politics: how people behave in their relationship to government, what they do to influence government, and how government attempts to influence people's behavior and beliefs about what it does. Students of politics also must appreciate how cultural, historical, and economic forces affect the evolution of governments and mass political behavior.

The Bachelor of Arts program in political science focuses on three areas of instruction:

1. American government, including legislative and executive institutions, political parties and interest groups, public administration, public opinion and elections, and state and urban government; public law, including constitutional law, criminal justice, civil liberties, and environmental law
2. International relations and comparative politics, including American and post-Soviet foreign policy; European and Latin American governments; the Middle East, Russian, and Asian governments; African politics; national security policy; terrorism; international political economy; and developing political systems
3. Political philosophy theory and analysis, including feminist theory, political philosophy, political ideologies, the history of political thought, and political analysis; and quantitative methods of political research

Student Internships and Applied Politics

Internships for political science majors may be arranged with area state legislators, congressional district offices, Dayton-area metropolitan governments, and governmental and policy advocacy agencies and organizations in Washington, D.C. These internships complement classroom work and give students the chance to apply knowledge and develop valuable interpersonal and career-related skills. The department sponsors student participation on our nationally recognized, award-winning team attending the annual National Model United Nations meeting in New York.

Degree Requirements—Political Science

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements

Required Courses:
Area III: PLS 200
Area VI: Any approved Liberal Arts College Component course

Foreign Language and Research Methods Requirement 24–32

Departmental Requirements 60

Core Requirements 8
Prerequisite: PLS 212, 222

Area Requirements 20
Prerequisite: Core Requirements
1. American Government (two courses, eight hours)
2. International and Comparative Politics (two courses, eight hours)
3. Political Philosophy, Theory, and Analysis (one course, four hours)

Advanced Department Electives 32
Prerequisite: Core Requirements
Thirty-two quarter hours chosen in consultation with a departmental advisor among 300- and 400-level courses with no fewer than four hours at the 400 level

Related Major Requirements from Outside the Department 20–21

There are two options. Option 1 must be completed in full by all political science majors who do not choose and complete in full a departmentally approved alternative of at least 21 credit hours.

Option 1
One English course from among the following:
ENG 240, 330, 333, or 344 3–4
HST 211 and 212 6
EC 204 and 205 8
GEO 201 or 202 3

Option 2
Option 2 may be the international economics certificate program, the business minor for liberal arts majors, a minor or second major in another field, or a set of courses from another discipline with a clear focus and coherence reflecting the individual’s career or other interests. Transfer students from Sinclair Community
College may apply LAP credits toward “legal affairs” related requirements. Other transfer credits also may be applied toward completion of the requirement. **In all cases, Option 2 must have advisor approval and requires at least 21 credit hours.**

**Free Electives** 23–32

**Total (minimum requirement)** 192

### Minor in Political Science

Students majoring in other fields, particularly other social sciences, may benefit from a minor in political science. The minor is especially helpful to students in journalism, business students interested in international business and finance, students in education, and anyone pursuing a career where a basic understanding of political institutions and processes would strengthen other program interests. Completion of the approved minor is certified on students’ official transcript upon graduation.

The minor may be fulfilled by completing the following requirements.

**The Political Science Minor** 36

**Core Requirements** 12
Prerequisite: PLS 200, 212, 222

**Area Requirements** 12
Prerequisite: Core Requirements
1. American Government (one course, four hours)
2. International and Comparative Politics (one course, four hours)
3. Political Philosophy, Theory, and Analysis (one course, four hours)

**Advanced Political Science Electives**
Twelve hours distributed among 300- and 400-level courses chosen in consultation with a departmental advisor

### Departmental Honors

Majors in political science may earn departmental honors by completing the following requirements:
1. Compiling a minimum GPA of 3.4 on all political science course work and in overall course work and
2. Attaining senior standing and
3. Completing the Model United Nations Seminar or a comparable limited enrollment advanced course with a grade of “A” or “B” (see the department chair for more information), or
4. Completing the annual senior honors research seminar with a grade of “A” or “B”.

By completing these requirements and the eight-course Honors Program requirement (described on page 17), majors may earn the designation “University Honors Scholar” upon graduation. Interested students should contact the University Honors Program for more information.

### National Honor Society

Majors in political science may become eligible for membership in Theta Zeta Chapter of Pi Sigma Alpha, the national political science honor society. Interested students should see the department chair for more information.

### Religion

**Professors** Barr, Griffin, Reece, Taylor (chair)
**Associate Professors** Chamberlain, Yerman
**Assistant Professor** Stoker

The Bachelor of Arts program in religion is comprehensive and nonsectarian in its approach, and shares with other humanities disciplines the goal of understanding ourselves and our world. Since religion is a powerful force in culture, it has been heavily involved in most of the world’s history, literature and art, and social institutions. The academic study of religion emphasizes the study of various religious traditions, their history, thought, social context, and moral and ritual expression.

A major in religion requires 14 courses within the department. Each student is assigned a departmental advisor who helps select courses. Students need to complete the sequence REL 205, 206, and 207 early in their program and take REL 493 near the end of their studies. In addition, a religion major requires one course from each of the following six areas: religion and diversity, American religion, biblical studies, ethics or philosophy of religion, eastern religions, and western religions. Four elective courses, drawn from these areas or elsewhere in the department, complete the requirement of 14 courses. At least six courses must be at the 300 level or above.

Religion majors must also complete 28 hours of related courses selected from a wide range of disciplines related to their special interests. Students should consult with their departmental advisor in selecting these. Students will also be required to demonstrate or develop proficiency in a foreign language related to their area of specialization and fulfill a research methods requirement.

The department also provides a dual major (11 courses) and a minor (8 courses). See the department chair for complete details.
Graduates with a degree in religion choose employment in a wide variety of professions, including teaching, social services, counseling, law, ministry, and medicine. Technical training required for these fields usually follows the baccalaureate program, but students are encouraged to choose electives that support their career interests as soon as possible. Career planning information is available for religion majors.

Degree Requirements—Religion

See General Education Requirements page 55

Bachelor of Arts Degree

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 48–53

Fourteen courses to be chosen from:
REL 205, 206, 207 9
REL 493 4

Six additional courses, one from each area:
American Religion
Biblical Studies
Eastern Religions
Ethics or Philosophy of Religion
Religion and Diversity
Western Religions 23–24
Religion electives (4 courses) 12–16
At least 24 hours must be at the 300 level or above.

Foreign Language and Research Methods Requirement 24–32

Related Requirements 28

Approved courses related to area of specialization

Electives 23–36

Total (minimum requirement) 192

Religion Honors Program

The Department of Religion encourages superior academic work through an honors program. Honors students take advantage of special seminars and discussion sections, departmental reading courses, and other opportunities. Relatively small classes also make it possible to work more closely with professors. Juniors and seniors with a 3.0 cumulative GPA and a religion major or adequate background in religion may participate in the departmental honors program. Interested students should contact the chair of the department.

Minor in Religion

A minor in religion enhances the student’s preparation for business, educational, and other professional fields. It also promotes a student’s self-understanding and cultural awareness, and enriches any college education. To earn a minor in religion, students fulfill the following requirements:

Religion Minor Requirements

REL 205, 206, 207
Five additional courses in religion* 17–20

Total 26–29

*At least 12 hours must be at the 300 level or above.

Selected Studies

Director Sharon H. Nelson
Program Committee Coordinator Robert A. Wood

The program in selected studies allows students to pursue a self-designed course of study. It is planned for students with a definite educational objective that is not met by the majors presently offered by the College of Liberal Arts. While the program is free from several traditional requirements, students must meet other requirements and procedures to obtain the degree.

Students are eligible for the program after they complete 45 credit hours. With the help of program sponsors, students formulate a contract outlining their study goals and reserving at least 48 credit hours for core courses that help accomplish those goals. The contract is evaluated and approved by the Program Committee.

In addition to completing the core and meeting all other university and college requirements for graduation, students must successfully complete at least 60 credit hours in courses numbered 300 or above; eight to 16 credit hours must be earned in LA 490, Senior Project in Selected Studies. Students must submit a proposal for the project to the program committee for approval before the beginning of their senior year.

Students interested in selected studies should see the committee coordinator for more information about the program.
Degree Requirements—
Selected Studies

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College
Component course
Core Courses 48
Senior Project (LA 490) 8–16
Foreign Language and Research Methods Requirement 24–32
Electives 40–56

Total (minimum requirement) 192

Ordinarily no more than 45 hours in one department may be counted toward the degree.

Degree Requirements—
Selected Studies

Bachelor of Fine Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College
Component course
Core Courses 48
Senior Project (LA 490) 8–16
Electives 72–80

Total (minimum requirement) 192

Ordinarily no more than a combination of 100 hours of course work may be taken in the Departments of Art and Art History, Music, and Theatre, and no more than 68 hours in any one department may be counted toward the degree.

Social and Industrial Communication

Program Coordinator: Robert E. Pruett

The dual major in social and industrial communication is offered by the Department of Communication and the Department of Sociology and Anthropology. The dual major is designed for students interested in organizational communication and who want, in addition, an in-depth understanding of the sociological influences that operate in organizations.

A graduate of this program will gain insight into the organizational world: how communication is used in the workplace, the role of the individual in an organization, and how to cope with organizational change.

Dual Major Degree Requirements—
Social and Industrial Communication

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Course:
Area VI: Any approved Liberal Arts College
Component course
Departmental Requirements 72

Required courses:
COM 101, 102, 141, 446, and three of the following: COM 444, 445, 447; SOC 303, 306, and two of the following: SOC 350, 440, 441

Major electives chosen from:
ATH 250; COM 333, 340, 343, 345, 346, 347, 401, 429, 444, 449, 451, 453, 455, 457, 489; SOC 201, 340, 341, 345, 348, 380, 406, 433, 442, 444, 446, 450; or other approved courses

Foreign Language and Research Methods Requirement 24–32
Electives 32–40

Total 192
Social Science Education

Director  Robert W. Adams

Students intending to teach secondary level social studies in the Ohio public school system must first earn the Bachelor of Arts degree in social science education, a multi-disciplinary major including work in all social science disciplines. Graduates of the undergraduate program will then need to satisfy requirements of the Professional Educator's Program through coursework for the Master of Education degree in the College of Education and Human Services. Upon completion of the academic content and professional teaching requirements, students are eligible to seek licensure as integrated social studies teachers from the Ohio Department of Education.

Admission to the Professional Educator's Program includes a minimum undergraduate GPA of 2.7 among other requirements. Throughout the undergraduate program, students should consult regularly with an advisor to ensure they are meeting requirements and standards necessary for admission to the Professional Educator Program.

Degree Requirements—Social Science Education

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 52

Required Substitutions:
Area III: EC 204 and 205 (for EC 200)
Area VI: Any approved Liberal Arts College Component course

Pre-Education Courses 15
ED 301, ED 303, EDS 333, ED 221, ED 223

Major Content Courses 94
HST 211, 212 6
American History (300/400-level) 8
European History (300/400-level) 4
Non-Western History (300/400-level) 8
History Electives (300/400-level) 8
GEO 201, 202, 203 12
PLS 212, 222 8
Political Science Electives (300/400-level) 16

SOC 201 3
Sociology Electives (300/400-level) 4
PSY 110, 351 8
EC 204, 205 8
Cultural Diversity Course 4

Foreign Language and Research Methods Requirement 24–32
Electives 0–7

Total (minimum requirement) 192–200

Social Work

Associate Professors  Baker, Brun (chair), Myadze
Assistant Professor  Rogers

The Bachelor of Arts program in social work prepares students for beginning employment in social work or for graduate study. Students considering social work as a career should be interested in people of widely varying ages, abilities, and backgrounds; they need to be disciplined, emotionally stable, and intellectually creative. Social workers typically find employment in family services, children's services, public schools, hospitals, mental health centers, and probation and parole boards. While most social workers perform direct practice duties, others are employed as outreach workers, community organizers, and administrators in public, voluntary, and for-profit agencies. Newer fields are also opening up for social workers, such as home-based services to older adults.

The baccalaureate program is fully accredited by the Council on Social Work Education.

Requirements for admission to the social work program include completion of SW 270, 271, and 272 with a grade of "C" or higher, with an overall GPA of 2.25 or higher; related social science courses; human biology; and the writing portion of the Pre-Professional Skills Test or passing the writing intensive component of at least two General Education courses.

Applications are accepted two times per year: March 1 and November 1. Admissions to the social work major are selective. Not all persons meeting the minimum requirements can be accepted into the major. Students should see the department's academic advisor if they have questions about the application criteria.

To graduate with a social work degree, a grade of "C" or higher is required in all social work courses.
Degree Requirements—
Social Work

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Courses:
Area II: SW 272
Area III: EC 200, PLS 200, PSY 105, SOC 200
Area V: BIO 107
Area VI: Any approved Liberal Arts College

Component course

Departmental Requirements 60

SW 270, 271, 291, 375, 380, 470, 481, 482, 483, 484, 490, 491; SW 487, 488, 489 (field practicum)

Related Requirements 7

COM 102
PSY 341

Foreign Language and
Research Methods Requirement 20–28

Electives 41–49

Total (minimum requirement) 192

Social Work Honors Program

The Department of Social Work recognizes superior achievement by social work majors with an honors program that allows students to graduate with the designation of honors in social work. Students in the program have an opportunity to pursue original research and analysis that goes beyond the requirements of their course work.

Junior and senior students with a 3.0 overall GPA and a 3.5 average in social work may apply. Students must initiate and successfully complete an honors project. The department suggests that honors students take at least one UH 400 interdisciplinary seminar before starting their honors project.

Certificate in Gerontology

The certificate in gerontology program offers students academic preparation and practical experience in the growing field of gerontology:

• Knowledge about the aging process (physical, social, and psychological) throughout the life span

• Knowledge about current social and health policies, as well as programs developed to meet the increasing needs of older people

Sociology and Anthropology

Professors Ballantine, Cargan (Emeritus), Cross (Emeritus), Islam (Emeritus), Melko (Emeritus), Riordan (chair), Savells (Emeritus), Siegal, Welty (Emeritus)

Associate Professors Bellisari, Durr, Koebernick (Emeritus), Orenstein, Shepelak, Steele, Steinberg (WSU–Lake Campus)

Assistant Professors Bergdahl, Bush, Wilcox

Visiting Assistant Professor Walker

Instructors Jahanbegloo, Scott

Sociology

Sociology is concerned with social relations: how people relate to each other as individuals, in families, or in groups; how they communicate in business and governmental situations; and how their behavior is judged as socially acceptable, deviant, illegal, or immoral. The Bachelor of Arts program in sociology trains students to observe and measure these interactions, predict likely outcomes from certain situations, and determine how we can develop programs to change behavior for the good of individuals and society.

Sociology graduates typically find careers that involve dealing with people, often working for large businesses or organizations or in community service, public relations, teaching, or research.

Sociology majors are required to take five or more upper-level courses designed to develop their writing skills and thinking capacity.

Degree Requirements—
Sociology

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements (SOC 200 is required of majors in Sociology) 56

Required Course:
Area VI: Any approved Liberal Arts College
Component course
Departmental Requirements 63
SOC 201, 204, 300, 301, 303, 306, 406, 442 29
Any two of the following:
SOC 320, 340, 345, 360, 380 8
300- to 400-level SOC electives (minimum) 20
Other SOC electives 6-11
Related Electives 12

Twelve hours in any single approved discipline at the 300-400 level.

Foreign Language and Research Methods Requirement 20-28
Electives 33-41

Total 192

Sociology Honors Program

The department encourages qualified students to conduct independent research through the department’s honors program. Students are eligible for the program if they have a GPA of 3.0 overall and 3.5 in sociology. Departmental honors are awarded at graduation. Under SOC 490, students must complete an honors project under the guidance of an honors advisor. Interested students should contact the departmental office for further information.

Minor in Sociology

The minor in sociology allows students to supplement their education in many fields. Students take SOC 306 (Sociological Methods) and five courses at the 300-400 level, four of them from one of the following concentrations: social organizations; deviance/criminology; social change; family/socialization. The minor requires a total of 28 credit hours.

Anthropology

Anthropology studies the behavior and biology of the human species, both current and past, often drawing on information from the social and biological sciences. The Bachelor of Arts program in anthropology focuses on three areas: cultural anthropology, archaeology, and physical anthropology.

Cultural anthropology exposes students to ways of life, belief systems, and value systems that differ from their own, examining the ways in which cultures deal with universal human problems, from the basic needs of food and shelter to the metaphysical questions of existence. Typical subjects for cultural anthropology include ecology and subsistence techniques, economics, political systems, religion, and cultural change.

Archaeology deals with cultures of the past. Archaeologists search for and study the material remains of past cultural activity and try to reconstruct the behavior patterns, technology, and social customs of people who no longer exist.

Physical anthropology focuses on the biological aspects of the human species. Physical anthropologists study the fossil evidence to determine how evolution has influenced human behavior and biology. Studies of biological variability in modern populations are also part of this discipline, since many physical differences among populations are the result of their having adapted to different environments.

Anthropology majors should normally complete the 200-level introductory courses before taking 300- or 400-level courses.

Degree Requirements—Anthropology

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements (CST 241 is required of majors in Anthropology) 56

Required Course:
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 54
ATH 241, 242, and 448 or 468 12
Cultural electives 12
Archaeology electives 12
Physical electives 8
Electives in the major 10
ATH 369, Field School in Archaeology, may count for no more than six hours toward major requirements.

Related Requirements 12

Selected from economics, geography, history, political science, psychology, sociology, and certain courses from biological sciences, geological sciences, and communication

Foreign Language and Research Methods Requirement 24-32
Electives 38-46

Total 192
Anthropology Honors Program

The department encourages qualified students to conduct independent research through the department's honors program. Students are eligible for the program if they have an overall GPA of 3.0 and an average of 3.5 in anthropology by the end of their junior year. Departmental honors are awarded at graduation. Under ATH 492, students are required to complete an honors project under the guidance of a faculty honors advisor. Interested students should contact the departmental office for further information.

Minor in Anthropology

The minor in anthropology provides a cluster of courses that form an introduction to the subfields of anthropology. It is intended for students in other majors who wish to supplement their study with the perspectives unique to anthropology.

The minor in anthropology contains 30 credit hours. This includes 10 hours in three introductory courses (ATH 241, 242, and CST 241), which expose students to the subfields of cultural and physical anthropology and archaeology. Upper-level courses are structured to allow students to examine the content of each subfield in greater depth. The required course in theory can be taken in either archaeology (ATH 468) or cultural anthropology (ATH 448).

Anthropology Minor Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATH 241, 242; CST 241</td>
<td>10</td>
</tr>
<tr>
<td>One course from cultural anthropology</td>
<td>4</td>
</tr>
<tr>
<td>One course from archaeology</td>
<td>4</td>
</tr>
<tr>
<td>One course from physical anthropology</td>
<td>4</td>
</tr>
<tr>
<td>One theory course (ATH 448 or 468)</td>
<td>4</td>
</tr>
<tr>
<td>One course: Selective (any area)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

Students are expected to maintain a 2.0 overall GPA.

Theatre Arts

**Professors** Blair, David, Derry, Klein, Reichert

**Associate Professors** Benjamin, Crews, Cromer, DeG., Donahoe, Johnson, Knauert Lavarnway, Lafferty, McDowell (chair), White

**Assistant Professors** Hellems, Kuharsky, McWilliams

The Department of Theatre Arts is devoted exclusively to the training and education of undergraduate students in the areas of dance, motion pictures, and theatre. These programs lead to the Bachelor of Arts and the Bachelor of Fine Arts degrees.

The Department of Theatre Arts is empowered by the Ohio Revised Code to "require particular preliminary training or talent" for admission to specific programs, and each of the five B.F.A. degree programs has specific criteria for admission to each level of training. Students in all areas must earn a minimum GPA of 2.0 by the end of the freshman year to continue in a theatre arts major. Students who wish to be admitted as majors in acting, dance, or directing/stage management must successfully pass an audition or interview. Transfer students are admitted into B.F.A. programs on the basis of a successful audition, interview, or portfolio presentation. The department has an open admissions policy for students wishing to major in the B.A. programs in theatre studies and motion picture history, theory, and criticism, and B.F.A. programs in design/technology and motion picture production.

All students who return after an absence of four or more consecutive quarters must reapply to the faculty for readmission to the program, and at the discretion of the faculty they may be required to satisfy program requirements in effect at the time of readmission. Details of the admission and retention policy are detailed in the Department of Theatre Arts Student Handbook.

Dance

The program in dance is designed to train students for a career in performance, teaching, or choreography. This program combines theatrical and musical training that helps prepare dance students for either specialized careers in modern dance or in ballet companies, or for a career in the professional theatre as a dancer who sings and acts.

The foundation of the dance curriculum is a daily class in ballet technique with additional training in modern, jazz-theatre dance, and tap. Classes in choreography, dance pedagogy, and dance history are required. Seniors must complete an individually choreographed senior dance project. Required courses outside of dance include studies in theatre, acting, music theory, music literature, and singing.

All students must successfully audition for admission into the dance program. All transfer students are required to audition for acceptance and placement. To remain in the dance program, students must demonstrate continual growth as judged by the faculty, maintain a 2.5 GPA in all dance courses, and a 2.0 GPA overall. Dance faculty evaluate all majors at the end of each academic year; students must earn a positive recommendation before they can enroll for the next level of training.

Exceptional dance majors are selected to study and to perform as members of Dayton Ballet II or
Dayton Contemporary II. These dancers are eligible for scholarships from the Department of Theatre Arts.

Dance majors are required to audition for the Wright State Dance Ensemble. Other auditions may be required by the dance faculty for other performances, including lecture-demonstrations, choreographic presentations, dance tours, and dramatic and musical productions. Dance majors must maintain a minimum GPA of 2.0 to be eligible for graduation.

Degree Requirements—Dance

Bachelor of Fine Arts Degree

See General Education Requirements page 55

Required Courses:
- Area IV: TH 214
- Area VI: Any approved Liberal Arts College Component course (see page ??)

Departmental Requirements
- DAN 101, 102, 103, 111, 112, 113, 201, 202, 203, 211, 212, 213, 251, 252, 253, 301, 302, 303, 311, 312, 313, 321, 322, 323, 341, 342, 343, 371, 372, 373, 399 (six hours), 401, 402, 403, 411, 412, 413, 421, 422, 423, 491, 492, 493

Related Requirements
- TH 147, 148, 149
- TH 105, TH 100 (five hours)
- MUS 114, 117, 118, 214

Electives
- 10

Total 192

Motion Pictures

The program in motion pictures provides a study of film as a fine art. The curriculum offers two options: the Bachelor of Fine Arts degree in theatre with a concentration in motion picture production; and the Bachelor of Arts degree in theatre with a concentration in motion pictures history, theory, and criticism.

The B.F.A. Program

The B.F.A. program follows an open admission policy only for the first quarter; thereafter, students must progress according to department guidelines in order to continue. Prospective motion picture B.F.A. students must take TH 131 the fall quarter of their freshman year and receive an “A” or “B” in order to proceed to any other classes as a major. Students successful in TH 131 should register for TH 231 in the winter quarter. In order to be eligible to take TH 180 and TH 232 in the spring quarter, students must have completed 24 university credit hours, received a “C” or higher in TH 231, and achieved an overall GPA of 2.25 by the end of winter quarter.

After completion of the spring quarter, prospective B.F.A. students must submit a Sophomore Audition Application and be officially accepted as a film major in order to continue into the sophomore year. Note that there will be a limited number of students invited to enroll into the second year and become B.F.A. majors. Further details regarding evaluation standards can be found in the Theatre Arts at Wright State Booklet, published by the department.

At the end of the sophomore year, B.F.A. students must audition successfully for entrance into the junior and senior years of the program. This process is called the Junior Audition and is a comprehensive process involving multiple meetings with faculty and review of all work done in the program. Before students are accepted into the junior year, they must have a 2.5 GPA in all film history/theory classes and a 2.25 overall GPA. Students must also have completed six film history/theory courses, not including TH 131, and including TH 232 and 233, and have earned at least 85 credit hours. Students are required to submit original media work for faculty evaluation. To be accepted to the third year, students must show promise of benefitting from continuing education. In their third year, all production students are expected to demonstrate growth in film technique and earn additional credits in film history, theory, and criticism, as well as credits in General Education classes and electives.

The B.A. Program

Students who are interested in the B.A. program generally follow the same program of study for the first year as the B.F.A. students. Like B.F.A. students, B.A. students are required to take TH 281 and TH 282. At the end of the freshman year, B.A. students should indicate to the faculty their intention to return to the program. If places are available, they will be allowed into TH 281 and TH 282 the fall and winter quarter of their sophomore year. More likely, B.A. students will be guaranteed entry into TH 281 and TH 282, but not until their junior or senior year. A B.A. degree in motion pictures can be thought of as a general liberal arts degree preparing one for entrance into professions requiring knowledge of contemporary culture. More specifically, the B.A. degree can prepare one for graduate study in film
and subsequent employment as a professional writer or teacher in a university; other job options include working for a film archive, festival, library, museum, arts council, or publisher.

Motion Picture Honors Program

The honors program in motion pictures provides students of superior academic ability with the opportunity to broaden and demonstrate their skills. To earn a degree with honors, students must complete the departmental major requirements, maintain a superior GPA throughout their course of studies, and successfully complete a senior honors project, TH 499, sometime in their senior year. To be admitted to the honors program, students must have a cumulative GPA of 3.5 in their major and an overall GPA of 3.25. Both B.A. and B.F.A. students should contact the coordinator of the motion pictures area or the department chair for further details.

Degree Requirements—Motion Picture History, Theory, and Criticism

Bachelor of Arts Degree

The Bachelor of Arts degree combines a liberal arts education with an appreciation of the aesthetic, social, and historical aspects of the film medium. Because film is a highly eclectic medium of expression, the department has designed a coordinated program of electives for the B.A. student.

See General Education Requirements page 55

General Education Requirements

Required Courses:
Area IV: ART 214 or TH 214
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements

MP 131, 180, 231, 232, 233, 334 19
Additional courses in motion picture history, theory, and criticism to be chosen from:
MP 331, 332, 333, 435 33
Additional production courses to be chosen from: MP 281, 282, 283, 381, 382, 383, 436, 499 9

Related Requirements

ART 207 11
MUS 214 or 121
One of the following:
EDT 455; COM 152, 253, 256, 360, 365 or appropriate substitute (consult advisor for alternates)

Language and Research Methods Requirement 36

Electives 28

Note: No more than seven credits of electives may be from theatre. English, history, and art courses are highly recommended.

Total 192

Degree Requirements—Motion Picture Production

Bachelor of Fine Arts Degree

The Bachelor of Fine Arts degree is designed to give students preprofessional training for vocations closely related to film and video production, while simultaneously giving them an opportunity to develop their creativity.

See General Education Requirements page 55

General Education Requirements

Required Courses:
Area IV: ART 214 or TH 214
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements

Additional courses in motion picture history, theory, and criticism to be chosen from:
MP 331, 332, 333, 435 21

Related Requirements

ART 207, 258, 358 or 359 24–26
MUS 114; 121 or 214
Two of the following:
EDT 455; COM 152, 253, 256, 360, 365 or appropriate substitute (consult advisor for alternatives)

Electives 38–40

Note: There is no limit on the number of electives which may be theatre courses.

Total 192

Theatre

Students who wish to study theatre choose from professional programs leading to the Bachelor of Fine Arts degree, or from the Bachelor of Arts degree in theatre studies. The professional programs are acting, acting-musical theatre, and design/technology/stage management.

Admission for the acting program is by audition. The department has an open admissions
policy for first-term freshmen in the design/technology/stage management and theatre studies programs. Transfer students must audition or interview for all B.F.A. programs. Each B.F.A. program has set criteria for selectively retaining students in the programs. These include a requirement that students must earn a GPA of at least 2.0 to continue in the B.F.A. programs; most of the programs require a higher minimum GPA for graduation. The policies are spelled out in the following sections and in the Theatre Arts Student Handbook, which is issued annually. Students are required to consult quarterly with an academic advisor.

Degree Requirements—Acting and Acting–Musical Theatre

Bachelor of Fine Arts Degree

The professional acting and acting/musical theatre programs are an intensive, four-year progression of studies in acting, voice, movement, dance, and singing. Acting majors may choose an emphasis in musical theatre. Because courses in the acting program follow a set sequence, students are generally admitted only in the fall quarter. The Professional Actor Training Program is limited by audition only to selected, superior students who show promise of high achievement in acting and/or musical theatre. Retention in the Professional Actor Training Program is determined by periodic review. Students are retained in the program based on their growth and development as judged by the acting faculty.

To be retained in the program, all acting and acting-musical theatre students must earn a grade of "C" or better in all required departmental and related courses for the major with the exception of TH 102, TH 120, and TH 222. (If a student does not receive a "C" or better in these required courses, the student may not take the courses a second time.) However, students may retake TH 372, 373, 380, 381, and 382 (literature and history courses) for a second time to receive the required grade of "C" or better. Students not receiving a grade of "C" or better in all required departmental and related courses (with the above exceptions) will not be retained in the program or continue in the acting or acting-musical theatre emphasis.

### Acting

See General Education Requirements page 55

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### Acting/Musical Theatre

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<td>Required Courses:</td>
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<td>Area IV: TH 214</td>
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<td>Departmental Requirements</td>
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<tr>
<td>Related Requirements</td>
<td>31</td>
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<tr>
<td>DAN 104, 105, 106, 121, 304, 305, 306, 207 or 307, 208 or 308, 209 or 309, 331, 332, 333 plus six credits from 300 or 400 dance of choice</td>
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<tr>
<td>Electives</td>
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<td>Total</td>
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### Degree Requirements—Design/Technology/Stage Management

Bachelor of Fine Arts Degree

The program in design/technology prepares students for careers as designers, technicians, and stage managers in the professional theatre. During the junior year, students begin a concentration in either design or technology in the fields of costumes, scenery, lighting, sound, or properties. Students...
interested in concentrating in stage management do
so beginning in the freshman year. All design/
technology majors must present their portfolio for an
evaluation at the end of each year of study. Students
are retained in the program and accepted into the
sophomore year of study based on (1) their
maintaining an overall GPA of 2.0, and (2) their
continual growth as determined by the faculty and
by a successful portfolio evaluation at the end of
each year of study. Before students can begin their
junior or senior year, they must have a 2.5 GPA on
all design and technology classes and a 2.25 overall
GPA. Students must also continue to show steady
growth in their craft. Student must demonstrate
leadership skills and self-discipline and show
promise of benefiting from continued training. Any
student whose overall GPA falls below 2.25 will be
suspended from production, graphics, and design
classes, and from using facilities until the GPA is
raised. The faculty reserves the right to totally
suspend from a program any student who does not
fulfill these continuing requirements. Students may
be reinstated if the requirements are subsequently
fulfilled. Students not performing in their academic
or production assignments will be dropped from the
program.

**See General Education Requirements page 55**

**General Education Requirements** 56

**Required Courses:**
- Area IV: TH 214
- Area VI: TH 250

**Department Core Requirements** 49
- TH 102, 124, 125, 147, 210 (18 hours), 220, 224, 227, 229, 301, 380, 381, 382

**Related Requirements** 48–80

*One of the following concentrations:*

**Technology Concentration (80 hours)**
- TH 124, 125, 126, 225, 226, 228, 320; MP 131
  (18 hours), 328, 329, 362, 420 (18 hours),
  429 (six hours); and six hours chosen from TH 324
  and 326

**Design Concentration (80 hours)**
- TH 124, 125, 126, 225, 226, 228, 320; MP 131
  (18 hours), 328, 329, 324, 325, 326, 362, 424,
  425, 426, 429

**Stage Management Concentration (48–54 hours)**
- TH 148, 149, 324, either 325 or 326, 350, 351, 410 (nine–15 hours), 429; COM 102; CS 205;
  DAN 111; ENG 330; HPR 260; MUS 114

Electives 7–39

**Total** 192

* Recommended electives for students in the Stage
  Management Concentration are TH 131, 498 (12–15 hours),
  and COM 453.

**Degree Requirements—
Theatre Studies**

**Bachelor of Arts Degree**

Theatre majors working toward the Bachelor of
Arts degree combine the advantages of a liberal arts
education with preparation for a career in theatre or
theatre-related areas. The department encourages
students to maintain a balance between theory and
practice, and among the various arts of the theatre,
gaining insight and perspective by studying art,
history, literature, music, philosophy, religion, and
science.

Because of the strength of the theatre
production program, the B.A. theatre studies student
is in a particularly advantageous position to acquire
a high level of practical as well as theoretical
knowledge, a distinction not afforded theatre
students in programs with lesser production
emphases. The student is encouraged to diversify in
a variety of disciplines; courses throughout the
department as well as production opportunities are
open to these students.

The major in theatre studies is generally
considered to be preparation for further study at the
graduate level.

**See General Education Requirements page 55**

**General Education Requirements** 56

**Required Courses:**
- Area IV: TH 214
- Area VI: TH 250

**Departmental Requirements** 49–50
- TH 102, 147, 148, 149, 222 (four hours),
  380, 381, 382; MP 131
- Additional electives chosen from:
  TH 301, 304, 328, 329, 350, 351, 365, 375
- Additional electives in theatre
  12–15

**Language and Research Methods Requirement**
24–32

**Electives** 54–63

**Total** 192
Urban Affairs and Geography

Professors Mazey, Oshiro, Pammer
Associate Professor Dustin (chair)
Assistant Professors Killian, Subban, Wenning
Lecturer Lowrey

Urban Affairs

Urban Affairs is an interdisciplinary program offering a Bachelor of Arts or Bachelor of Science. Students learn about the urban environment as a complex system. They study theories and practices of urban development processes from an interdisciplinary perspective. The program develops core competencies that include quantitative and qualitative analysis, effective communications, systems thinking, and consensus building and teamwork. The program is designed to prepare students for junior- or entry-level positions in local government and nonprofit organizations or to embark on a graduate program.

Students must have at least a 2.3 GPA or receive a special waiver from the chair to be admitted to the major. Interested students may apply for admission after meeting college admission requirements. Majors are required to complete a common core of courses and a specialization in one of four areas: community development, criminal justice, public administration, or urban social/physical planning.

Urban affairs students are required to participate in the department’s internship program. The internship is designed to complement class work and give students experience in the professional work environment. Students interested in the internship should contact the departmental coordinator of the program or their advisor. Students currently working in a related field may have the internship requirement waived.

For further information about the program and admission criteria and procedures, students should contact the Department of Urban Affairs and Geography.

Nonprofit Administration Certification Program

Students interested in a rewarding career in the nonprofit sector should consider the Nonprofit Administration Certificate Program. Urban Affairs offers the certificate through American Humanities (AH), a national alliance of colleges, universities and nonprofit organizations. The purpose of the program is to prepare undergraduate students for management positions in the nonprofit sector.

Students seeking the AH Certificate must take up to 20 credit hours of approved course work, complete a 300-hour internship, and participate in co-curricular activities. Co-curricular activities include participation in the Wright State University’s American Humanities Student Association, participation in at least one annual retreat, and attendance at the American Humanities National Management Institute conference.

The AH Nonprofit Administration Certificate Program is open to students pursuing a bachelor’s degree in any major. To be accepted into the program, a student must have at least a 2.5 GPA, formally apply to the program, and successfully complete an interview with the AH Program Director, Dr. Mary Wenning. For more information, please contact Dr. Wenning.

Department of Urban Affairs Studies and Geography, 225 Millett Hall, (937) 775-3506 e-mail: mary.wenning@wright.edu

Degree Requirements—Urban Affairs

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Courses:
Area II: CST 221
Area VI: URS 200

Departmental Requirements 68–71

Core Courses:
URS 311, 411, 492 12

Foundation Courses (choose five):
URS 317, 321, 345, 424, 425, 450, 470, 475; GEO 340; SOC 444 20

Urban Affairs Specialization 32–35
(see specializations below)

ENG 330 or 333 4

Foreign Language and Research Methods Requirement 24–32

Electives 33–44

Total 192
Degree Requirements—
Urban Affairs

Bachelor of Science Degree

See General Education Requirements page 55

General Education Requirements 52

Required Substitution:
Area I: MTH 228 (for MTH 145)
Area VI: Any approved Liberal Arts College Component course

Departmental Requirements 68–71

Core Courses:
URS 311, 411, 492 12

Foundation Courses (choose five):
URS 317, 321, 345, 424, 425, 450, 470, 475;
GEO 340; SOC 444

Urban Affairs Specialization 32–35
(see specializations below)

ENG 330 or 333 4

Science Requirements 24–26
MTH 128 or 129, and 228, plus two statistics and two computer science courses to be approved by the department

Electives Recommended 46–48

Total 192

Criminal Justice Concentration—32 Credit Hours
This concentration meets the needs of students preparing for careers in crime prevention and law enforcement. Knowledge of law, the urban environment, psychology, and social relations provides a foundation for work in the criminal justice system. Employment may be found in various judicial, administrative, and police agencies at all levels of government and in private companies. In addition to required courses, students select elective courses that fit their unique career objectives. Prior to enrollment, students should discuss with their advisor which courses best fit their needs.

Recommended foundation courses include:
URS 321, 345, 425, 450; and SOC 444.

Required concentration courses include:
URS 420 and PLS 436, plus 24 credit hours of department-approved courses.

Community Development Concentration—32 Credit Hours
Community development involves revitalizing, sustaining, and expanding urban areas. Such work requires an understanding of many of the principles found in planning, organizing, managing, policy-making, finance, economics, and physical development. The community development course series prepares students for careers as community developers in public, not-for-profit, or grassroots organizations. Students should select courses that fit their unique career objectives, such as economic development, neighborhood development, and social development. Prior to enrollment, students should discuss with their advisor which courses best fit their needs.

Recommended foundation courses include:
URS 317, 321, 425, 450; and GEO 340.

Required concentration courses include:
URS 415, 416, and 24 credit hours of department-approved courses.

Urban Management Administration—32 Credit Hours
This area is suggested for students who wish to develop careers in management and administration in public agencies, including municipal, county, and state governments and not-for-profit organizations. It includes courses in management, personnel and labor relations, budgeting, and public administration. Prior to enrollment, students should discuss with their advisor which courses best fit their needs.

Recommended foundation courses include:
URS 321, 345, 425, 450, and 470 or 475.

Required concentration courses include:
URS 346, 446, and 24 credit hours of department-approved courses.

Urban Physical and Social Planning—35 Credit Hours
Urban physical planning prepares students for involvement in functions and processes such as infrastructure design, zoning, land use, code enforcement, and pollution abatement. Urban social planning involves students in careers associated with health, recreation, welfare, and social wellness. Municipalities, counties, public authorities, not-for-profit organizations, and engineering and architectural firms employ physical and social planners. Prior to enrollment, students should discuss with their advisor which courses best fit their needs.

Recommended foundation courses include:
URS 317, 321, 424, 450; and GEO 340.

Required concentration courses include:
URS 318; GEO 365, 447, 448; and 16 credit hours in department-approved courses.
Urban Affairs Honors Program

The Urban Affairs Honors Program provides an opportunity for students to achieve their highest possible level of intellectual attainment. Urban affairs majors of superior academic ability are invited to apply. A student may enter either upon successful application or at the invitation of the Urban Affairs Honors Committee. To be eligible, the student must have a cumulative GPA of 3.5 or better in all course work completed at Wright State University. It is recommended that students apply to enter the program during their junior year and no later than the first quarter of their senior year.

Honors students are required to complete all urban affairs degree requirements, maintain a cumulative GPA of 3.5 in all course work, complete URS 411 (senior seminar) with a grade of "A", defend orally the seminar paper to a committee composed of the URS Honors Committee and the faculty advisor for the seminar paper, and complete at least one University Honors Seminar.

Minor in Urban Affairs

The minor in urban affairs will benefit students who pursue careers that have connections to urban administration, planning, criminal justice, or community development and nonprofit organizations. Students minoring in urban affairs study and analyze cities and urban regions as systems. They will gain an understanding of complex social, political, and economic forces shaping urban life. Interdisciplinary urban affairs courses may be useful to majors in the social sciences, economics, business, education, and health care.

Acceptance into the minor in urban affairs requires an overall 2.3 GPA. Students who do not have a 2.3 GPA may petition the chair of the department for a waiver from this requirement. Students should complete the social science General Education requirements prior to enrolling in minor classes. Students must maintain a minimum GPA of 2.0 in the minor.

Urban Affairs Minor Requirements 28

Required Courses 16
URS 311, 317, 321*, and 345*
Elective Courses 12
Select three courses: URS 412, 415, 423, 424, 425, 450, 470 or 475

* Political Science students who take URS 321 and URS 345 for their major must substitute URS 450 and 470 for the Urban Affairs minor.

Geography

Geography is the study of the location and interrelationships of human and physical phenomena on the earth's surface. Because of its emphasis on spatial organization and distribution of these phenomena, geography has a broad cross-disciplinary base. Topics of study such as cartography, climatology, landform analysis, remote sensing, settlement theory, spatial interaction, and urban morphology indicate the breadth of contemporary geography. The undergraduate major in geography includes the study of cultural, economic, physical, and regional geography, as well as cartography, quantitative methods, and field work. Backgrounds in the natural and social sciences, humanities, statistical methods, and computer programming are useful to the geography major.

The geography program allows students to select a curriculum best suited to their particular interests. Geography majors select a program leading to either a Bachelor of Arts degree or Bachelor of Science degree.

The Bachelor of Arts degree in geography focuses on examining the processes of formation and the characteristics of the cultural landscape. Students select an area of study from physical geography, resource analysis land management, or economic geography.

The Bachelor of Science program in geography emphasizes technical skills and logic. Courses in physical, economic, and social geography and in cartography, photogrammetry, remote sensing, and geographic information systems are emphasized in the program. These courses are complemented by courses in mathematics, philosophy, and computer science.

Geography may be selected as an academic major, a secondary teaching major in social science or earth science program, or as part of an elementary teaching major. Students majoring in geography may qualify for licensure at the secondary level by meeting the minimum requirements in professional education courses for licensure by the state of Ohio. Students are strongly urged to consult with a geography advisor before registering because of sequential requirements and prerequisites.

Geography majors may participate in the department's internship program. The internship is designed to complement geography students' class work and gives them experience in the actual work environment. Students interested in the internship should contact the departmental coordinator of the program or their advisor.
Certificate Program

Geography provides a certificate program in cartography, photogrammetry, and remote sensing. Included is a group of five courses exposing participants to the latest developments in data collection and analysis techniques, aerial and space cameras and sensors, photographic materials and reproduction processes, and mapping procedures, including computer mapping. Upon completing these courses, each participant must present a portfolio of materials for faculty review and complete an oral review of his or her work with the faculty.

Students interested in the certificate program should contact the department chair.

Degree Requirements—Geography

Bachelor of Arts Degree

See General Education Requirements page 55

General Education Requirements 56

Required Courses:
Area II: CST 221
Area VI: URS 200

Core Requirements 30

GEO 201, 202, 203, 365, 370, 385, 486

Departmental Major Requirements 32–33

GEO 322, 361, 365, 370, 385, 486

Additional appropriate geography courses numbered 300 or above to suit particular interests or future plans of the student 8–9

Related Course Requirements 24

Approved courses numbered 200 and above (not to exceed four courses in one department) in biological sciences, computer science, economics, engineering, geological sciences, history, mathematics, philosophy, physics, political science, and urban affairs

Language and Research Methods Requirement 24–32

Electives 17–26

Should be selected in consultation with the departmental advisor to complement and support the student’s area of interest

Total 192

Degree Requirements—Geography

Bachelor of Science Degree

See General Education Requirements page 55

General Education Requirements 56

Required Substitution:
Area I: MTH 228 (for MTH 145)
Area VI: Any approved Liberal Arts College Component course

Departmental Core Requirements 30

GEO 201, 202, 203, 365, 370, 385, 486

Departmental Major Requirements 36–38

Physical Component
Three of the following:
GEO 322, 430, 431, 432 12

Economic-Social Component
Three of the following:
GEO 340, 353, 375, 455 12

Skills Component
Three of the following:
GEO 361, 362, 445, 446, 447, 463 12–14

Related Course Requirements 29

Mathematics and Statistics
STT 264, 265
MTH 228 13

Philosophy
Two of the following:
PHL 215, 471, 472 8

Computer Science
Two of the following:
CS 141, 142, 205, 300 8

Electives 43–45

Should be selected in consultation with the departmental advisor to complement and support the area of concentration

Total 192

Geography Honors Program

The geography honors program allows superior students to work on a geographic problem of their own choosing. Applicants must be majors in geography, have senior standing with 36 hours of geography courses to their credit, and meet certain minimum GPAs. Candidates are required to
complete an honors project under the direction of a geography faculty member. Successful completion of the project, including written and oral project reports, carries four academic credits and entitles students to graduate with honors in geography. Geography honors students are encouraged to participate in the University Honors Program; interested students should contact the departmental coordinator of the program.

**Minor in Geography**

The minor in geography is designed for students in other disciplines who wish to supplement their knowledge and skills with geographic analytical skills and perspectives. A minimum GPA of 2.5 is required in the minor.

The course requirements for a minor in geography are:

- GEO 431, 430 8
- GEO 340, 353 8
- GEO 361, 365 9
- GEO 385 5
- GEO 481/492 2

**Women’s Studies**

*Program Director* Marlese Durr

*Affiliated Faculty* See program Web site at http://www.cola.wright.edu/prog/wms

Women’s Studies (WMS) is an interdisciplinary program that places women in all their diversity at the center of inquiry and examines how gender influences our personal identities, cultural and artistic expressions, social arrangements, political and economic systems, and even our ways of knowing and understanding the world. The Bachelor of Arts program in women’s studies is organized around three major areas of inquiry: feminist thought, women in multicultural perspective, and women in international perspective. Through courses taught in these and other areas across many disciplines, as well as opportunities for internship experiences and/or independent research, students will gain (1) critical thinking and communication skills; (2) the ability to analyze multiple fields of difference related to gender, race, cultural identity, nationality, class, age, sexual orientation, and physical ability; (3) new ways of seeing and new standards for evaluating diverse women’s and men’s contributions to knowledge and society; (4) a more inclusive and transformative understanding of themselves and the world(s) in which they live; and (5) the opportunity to actively participate in social change.

The breadth and flexibility of the major enables students to choose among a variety of courses in many disciplines that suit their needs and interests as well as to tailor their course of study to develop a specialization within women’s studies. Because the women’s studies major is made up of courses that also count toward minors and majors in other disciplines, it also offers students the opportunity to pursue minors or dual majors in other fields to supplement and apply their training in women’s studies with fewer additional credits to complete. As documented in national studies of women’s studies graduates, a major in women’s studies prepares students for a broad array of graduate and professional programs and a broad range of careers in such areas as research, writing, teaching, public policy, social and health services, law, business, and communications in public, private, and nonprofit organizations at local, national, and international levels.

Students seeking admission to the major must possess an overall GPA of 2.0. To graduate with a degree in women’s studies, students must complete, along with university and college requirements, 20 hours of core courses and 31–36 hours of additional requirements, and maintain a grade of “C” or higher in all approved WMS courses taken for the major. 40 hours of which must be at the 300-level or above.

**Major in Women’s Studies**

*See General Education Requirements page 55*

**General Education Requirements**

56

**Required Courses:**

Area III: WMS 200 Approaches to Women’s Studies

Area VI: Any approved Liberal Arts College Component course

**Foreign Language and Research Methods Requirements**

24–32

**Major Requirements**

47–52

**Core Requirements (4 courses, 16 credits)**

- Women in Multicultural Perspective (WMS 300) 4
  (variable topics based on disciplinary cross-listings)
- Women in International Perspective (WMS 400) 4
  (variable topics based on disciplinary cross-listings)
- Feminist Thought (WMS 450) 4
- Independent Field Experience (WMS 498) or Independent Study (WMS 499) 4

**Additional Requirements (9 courses, 31–36 credits)**

1 additional WMS approved feminist thought/ theory course in any discipline 4
1 additional WMS approved women in multicultural perspective course in any discipline 3–4
1 additional WMS approved women in international perspective course in any discipline 3-4
6 additional WMS approved courses in any discipline 21-24

Note: Within the additional requirements, at least one course each in history, literature, and two different social sciences approved for women’s studies must be completed. A list of approved women’s studies courses which count toward the core and additional requirements is available through the women’s studies Web site at www.cola.wright.edu/prog/wms.

Free Electives 52-65
Total 192

Minor in Women’s Studies

The women’s studies minor is open to students from all majors and consists of a total of seven to eight courses. All students take a single, required core course, WMS 200. In addition, students select six to seven approved women’s studies courses.

Women’s Studies Minor Requirements 28-32

Core Course
WMS 200 Approaches to Women’s Studies 4
Approved Electives
six to seven courses 24-28
Total 28-32

Other requirements:
1. No more than three courses in the same discipline can be counted toward the minor.
2. At least five courses must be upper division (300-level and above).
3. A minimum grade of “C” is required for each course counted toward the minor.
4. A minimum GPA of 2.0 is required to enter the program.

Certificate Program in Women’s Studies

An undergraduate certificate in women’s studies can be completed by nondegree students who wish to gain a professional credential for working with women and on women’s/gender issues in various occupations. To be admitted, students must either hold an undergraduate degree at the bachelor or associate level in any area with a 2.0 minimum GPA.

Requirements
Core Course
WMS 200 Approaches to Women’s Studies 4

Approved women’s studies electives
Four courses from at least two departments 16
Total 20

Other requirements
1. At least three courses must be at the 300-level or above.
2. A minimum grade of “C” is required for each course counted toward the certificate.
3. Approved women’s studies course taken by a student in an undergraduate degree program but not culminating in a completed minor can be applied toward the undergraduate certificate after the student graduates and is then admitted into the certificate program. At least two women’s studies courses must be taken as a nondegree student in these cases.
4. A portfolio or papers and projects produced for courses taken for the certificate must be submitted within three months of completing all coursework to the director of women’s studies for review by the women’s studies committee. The certificate will be awarded following positive evaluation of the portfolio that will be judged on a pass/fail basis.

Global Gender Studies Track in the International Studies Major

The global gender studies track in the international studies majors enables students to study women and gender issues from an international and cross-cultural perspective. Through courses on women and gender in relation to international diplomacy and peace studies, area studies, comparative cultures, and international economic affairs, students can develop special expertise for work in such areas as women in economic development, human rights, and cross-cultural relations in the contexts of intergovernmental and nongovernmental organizations. See the international studies program description as well as the directors of international studies and women’s studies for more information.

Other Options in Women’s Studies

Students may alternatively or additionally pursue a women’s studies graduate certificate independent of a graduate degree, alongside any graduate degree program or in the context of the women’s studies emphasis in the Master of Humanities program or the women’s studies option in the M.A. in English program. For more information on graduate work in women’s studies, see the graduate catalog and the women’s studies Web site at www.cola.wright.edu/prog/wms.
Admissions and Advising

The baccalaureate program in nursing is an upper-division major. Admission to Wright State University does not guarantee admission to the Wright State University–Miami Valley College of Nursing and Health.

To be eligible to apply for admission to the college, students must be accepted as degree-seeking students at Wright State University, complete all designated prerequisite courses with a combined 2.5 GPA, and have at least a 2.5 cumulative GPA. Due to the number of applicants seeking admission to the College of Nursing and Health, admission will be competitive based upon cumulative GPA. The number of students admitted is determined by the availability of such resources as clinical sites and by the number of faculty available to the college.

All students must submit an admissions application to the college office by the established deadline.

Students must earn a grade of "C" or better in statistics and all science courses to progress through the clinical nursing courses. Students must also earn a grade of "C" or better in each nursing course.

All students must fulfill current health requirements, including immunizations, and certify they are in good health and able to actively participate in clinical experience and fulfill all program objectives. To confirm this, students must undergo a physical examination and submit medical, insurance, and CPR documentation to the College of Nursing and Health while they are enrolled in NUR 217. Students must continue to meet these requirements each year thereafter. Faculty may request a student's reexamination if evident limitations interfere with the student's clinical practice or learning.

Students must provide their own transportation to all clinical agencies.

New Students

All new students interested in nursing will be admitted to the university as prenursing students. Most new students will initially be advised in the University College. Students may seek admission to the College of Nursing and Health to complete their program after they:

1. complete 48 quarter credit hours;
2. maintain a cumulative GPA of 2.5 or higher;
3. complete all prerequisite courses with a minimum GPA of 2.5;
4. earn at least a grade of "C" in ENG 101 and 102, PSY 105 and 110, CHM 102, SOC 200, ANT 201, STT 160; and M&I 220
5. submit a College of Nursing and Health admissions application by the established deadline; and
6. submit a written statement of 250 words or less describing life experiences the applicant brings to nursing.
Transfer Students

Transfer students must meet the same requirements as new students. Transfer students who do not have the necessary prerequisites will be admitted as prenursing students and advised in the University College until they meet the requirements listed for new students, including a GPA of 2.5 or above. Transfer students with 75 or more credits and at least a 2.5 GPA will be advised in the College of Nursing and Health.

Transfer students with baccalaureate nursing credits from another accredited nursing program will have their nursing credits evaluated in the College of Nursing and Health.

Registered Nurses

The College of Nursing and Health offers a Bachelor of Science in Nursing completion track for registered nurses. This course of study builds on the skills and experiences of the registered nurse and provides a solid preparation for future graduate study. All registered nurses are granted advanced standing for their prior learning.

Registered nurse students may choose to complete the program on-line or in a traditional classroom setting. The classroom based program is available at the Dayton campus, Lake Campus, and at Southern State Community College in Hillsboro, OH.

Student Organizations

The Wright State Student Nurse Association (WSSNA) is a branch of the national and state student nurse associations and is open to all nursing and prenursing majors.

Zeta Phi Chapter of Sigma Theta Tau International Honor Society of Nursing is affiliated with the College of Nursing and Health. Membership is offered to the top one-third of baccalaureate students who have completed at least three-fourths of the nursing curriculum.

Student Mentoring and Retention Team (SMART) is a student managed/faculty supported retention program for all prenursing and nursing students.

Degree Requirements

Bachelor of Science in Nursing Degree

General Education (see page 55) 57.5

Required Substitutions:
Area I
STT 160
Area III:
PSY 105
SOC 200
Area V:
CHM 102, ANT 201, ANT 202
Area VI:
NUR 212 or HLT 201, or 202, or 203*
(If HLT 201, 202, or 203 is taken as Area VI, NUR 212 is still a nursing major requirement)

Support Courses 32
M&I 220
P&B 301, 302
BMB 250
PHR 340
PSY 110, 311, 341

Nursing Requirements 97–101


Free Electives 1.5–5.5

Total 192

College of Nursing and Health Area VI Policies:
• Nursing majors may take NUR 212, HLT 201, HLT 202, or HLT 203 to meet the Area VI College component of GE. NUR 212 is also a required Nursing course.
• Students who transfer from another WSU major who completed their Area VI for previous major will still need NUR 212 as a required Nursing course.
• Students who transfer to WSU with a completed transfer module from another institution must still complete NUR 212 as a required Nursing course.

Bachelor of Science in Nursing Degree:
RN/BSN Completion Option

General Education (see page 55) 57.5

Required Substitutions:
Area I
STT 160
Area III:
PSY 105
SOC 200
Area V:
CHM 102, ANT 201, ANT 202
Area VI:
NUR 212 or
HLT 201, or 202, or 203*
*If HLT 201, 202, or 203 is taken as Area VI, NUR 212 is still a nursing major requirement.

Support Courses 20–28
M&I 220
P&B 301**, 302**
BMB 250
PHR 340
PSY 110, 341
**Waived with C or better in NUR 306

Nursing Requirements 97–101
NUR 308, 405, 425, and 462 (RN only courses)
**Recognition of competency achievement equivalent to a maximum of 53.5 of the required 101 nursing credit hours is possible for advanced placement based on prior learning and success in transition courses.

Free Electives 5.5–17.5

Total 192

College of Nursing and Health Area VI Policies:
- Students who transfer from another WSU major who completed their Area VI for previous major will still need NUR 212 as a required Nursing course.
- Students who transfer to WSU with a completed transfer module from another institution must still complete NUR 212 as a required Nursing course.

There is also a plan of study for students who choose to complete the program in three calendar years plus fall quarter. Students who change from one plan to the other will be admitted to the alternate plan on a space-available basis only.

The College of Nursing and Health faculty reserves the right to revise the nursing requirements or the sequence at any time as deemed necessary to prepare students for new and emerging roles in nursing. Course requirements or sequence scheduling may also be changed.

Students can repeat a science course one time only; a maximum of two science courses may be repeated. Students may repeat one nursing course. Students subsequently failing any nursing course will be dismissed from the program.

Honors Program

Students with superior academic ability may participate in the nursing honors program, which emphasizes independence, self-direction, and in-depth study in an area of interest to the student. To be eligible, students must have a 3.2 or higher GPA for the 45 credit hours immediately preceding the winter quarter of their junior year. Students eligible to participate in the nursing honors program will be notified by the college’s Office of Student Affairs.
SCIENCE AND MATHEMATICS
Admissions and Advising

Students must apply for admission to the College of Science and Mathematics. Applicants must meet the following requirements: completion of at least 24 credit hours with a minimum GPA of 2.0 overall; completion of at least two courses in the College of Science and Mathematics (or transfer equivalents) with minimum grades of "C." Individual departments may specify more rigorous requirements, such as specific courses or higher GPAs overall or in the major only.

After the office of the dean reviews each student's application, the student will be assigned an advisor in the appropriate department who will help the student develop a program of study.

Degrees and Areas of Study

Requirements for the Bachelor of Science Degree

To be eligible for the Bachelor of Science degree, students must:
1. fulfill the university General Education requirements.
2. satisfy Writing Across the Curriculum requirements.
3. complete the residency requirement of 45 credit hours at Wright State. At least 15 of the last 45 hours for the degree must be taken at Wright State, and at least 30 hours must be taken at Wright State at the 300-level or above.
4. complete at least 183 credit hours of acceptable academic work with at least a 2.0 cumulative GPA and at least a 2.0 GPA in the major. A student may find it necessary to earn more than 183 credit hours to meet the requirements of the curriculum chosen. In certain programs, a grade of "C" or better must be earned in specified courses.
5. complete at least 75 credit hours in advanced courses (numbered 200 and above) applicable to the degree.
6. complete at least 54 credit hours in one department; by permission of the department chair, up to 18 hours of this requirement may be taken in a closely related field.
7. complete all the requirements in one of the approved programs of study established by
the departments or within the college. A student must take at least 95 credit hours outside the major department.

Requirements for the Bachelor of Arts Degree

To be eligible for the Bachelor of Arts degree, students must complete the requirements listed for the Bachelor of Science and also must:

1. complete at least 27 credit hours in departments outside the College of Science and Mathematics and the College of Engineering and Computer Science. The level and type of courses to be taken are subject to the discretion and approval of the student’s major department. These courses are in addition to those needed to fulfill the General Education requirements.

2. complete at least three courses in a department in either the College of Science and Mathematics or the College of Engineering and Computer Science other than the major department. These courses are in addition to those needed to fulfill the General Education requirements.

Honors Program

Departmental honors programs are available in biological sciences, chemistry, geological sciences, mathematics and statistics, physics, and psychology. These honors programs give well-qualified students the opportunity to complete an independent research project and pursue advanced course work. Students interested in pursuing an honors project should consult with the chair of the appropriate department. Departmental honors are awarded at graduation upon completion of requirements.

Cooperative Education Program

A cooperative education program is available that gives students the opportunity to work full time or part time in a career-related experience. Completion of these preprofessional programs does not guarantee admission to the graduate level, master’s degree teacher licensure program, housed in the College of Education and Human Services (CEHS).

The CEHS graduate program will lead to a master’s degree (M.Ed.) and the Adolescence to Young Adult teaching license. The admissions criteria for this program are detailed in the Wright State University Graduate Catalog. Questions should be directed to the CEHS Office of Student Services.

Student Organizations

Through involvement in student clubs and societies in the College of Science and Mathematics, students can develop closer ties with other students in the same major. Clubs and societies available to students within the college are: for biological sciences majors: the Biology Club, Environmental Sciences Club, and Sigma Xi Honor Society; for chemistry majors: the Chemistry Club (student affiliate of the American Chemical Society); for geological sciences majors: student chapters of the American Association of Petroleum Geologists and the Society for Exploration Geophysicists, American Institute of Professional Geologists, and Sigma Gamma Epsilon Honor Society; for physics majors: the Physics Club and Sigma Pi Sigma Honor Society; for psychology majors: the Psychology Club and Psy Chi Honor Society; and for students interested in medical school: the Premedical Society.

Anatomy

Professors Bigley, Frye, Pearson
Associate Professors Nagy, Nieder, Ream, Scott (chair)
Assistant Professor Alvarez

The Department of Anatomy provides limited course work for undergraduate students. Basic human anatomy is a two-quarter sequence covering the essentials of anatomy with emphasis on gross anatomy and histology, but also includes introductory neuroanatomy and embryology. The laboratory portion of the course incorporates the use of cadavers and computer programs. The course provides a strong academic background for those planning to enter the life sciences, nursing, medicine, or other health-related professions. Opportunities for undergraduates to participate in special projects focused on human structure are available.

The department also offers graduate courses in the areas of gross anatomy, microanatomy, embryology, and neuroscience for a Certificate in Anatomy (three quarters) and for master’s degree candidates with course option (seven quarters) or with thesis option (two years). In addition, the department provides course work at the doctoral level in the Biomedical Sciences Ph.D. program.
Biochemistry and Molecular Biology

Professors  Leffak, Organisciak (chair), Prochaska, Weisman
Associate Professors Alter, Berberich, Fritz (Emeritus), Paietta, Reo, Turchi, Wooley
Assistant Professors  Bicknell, Dennis, Kadakia, Patrick

The Department of Biochemistry and Molecular Biology offers courses in metabolism, the molecular aspects of gene expression and cellular processes, and nutrition. Although the department does not have a formal baccalaureate degree program, these courses can serve as a concentration for those interested in building a background in biochemistry before pursuing a career in medicine or related biomedical sciences.

Honors Program

Under the biological sciences honors program, it is possible for students to do an undergraduate honors thesis with a faculty member from the Department of Biochemistry and Molecular Biology. Students interested in this area of study need background courses in biology, other life sciences, and chemistry.

Biological Sciences

Professors  Arlian, Burton, Carmichael, Giron, Goldstein (Chair), Hull, Isaeus, Runkle, Wheatly, Wood
Associate Professors  Amon, Baird, Grasman, Krane, Mamrack, Miller, Pohlman, Tomlin
Assistant Professors  Cipollini, Hiskey (WSU–Lake Campus), Van’t Hof
Clinical Laboratory Science Program  Pacifico (Director)

The Department of Biological Sciences offers the following degree programs: Bachelor of Science and Bachelor of Arts in Biological Sciences, Bachelor of Science in Clinical Laboratory Science, Bachelor of Science in Environmental Health Sciences. We offer three options within the Bachelor of Science: an exercise biology option, a preprofessional option, and a bioinformatics option. A preparatory program in Allied Health Areas is available, along with a dual major program in chemistry.

There are minimum grade requirements for departmental courses in each of the undergraduate degree programs. See specific program requirements for details.

The teaching and research programs of the department are conducted in modern, well-equipped classrooms and laboratories. A 200-acre biology preserve on campus and nearby parks and preserves such as the Beavercreek Wetlands provide excellent opportunities for terrestrial and aquatic field studies.

Students must plan their individual programs of study with the help of a departmental advisor to be sure they are meeting university, college, and departmental requirements. Many undergraduate students include faculty-guided, independent-research projects in their academic programs.

Biological Sciences

The Bachelor of Science curriculum offers a broad, integrated, and in-depth approach to the life sciences. Departmental requirements consist of a balanced core of courses selected from several subject areas, combined with elective courses from the Department of Biological Sciences and other life science departments such as, Anatomy, Physiology and Biophysics, and Biochemistry and Molecular Biology.

Within this degree, several options are available to students. The programs of study can accommodate students with such differing interests and objectives as graduate work in molecular biology, laboratory work in microbiology, or field work in ecology. Programs also can serve as preprofessional preparation for medical, dental, or veterinary sciences.

Degree Requirements—Biological Sciences

Bachelor of Science Degree

Students must achieve a grade of “C” or better in each course used to fulfill the Departmental Requirements of the degree.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 228 or 229 and 230, or STT 264 and 265 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)
AREA VI:
EH 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24
Supporting Requirements

CHM 121, 122, 123, 211/215, 212/216, 213/217 33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204 15 16
MTH 228, STT 264 and 265 or 13-15
MTH 229, 230, 231

Life Science Electives 40

Area D
Selected from 300- and 400- level courses. A minimum of 25 credits must have BIO, M&L, or EXB prefix. A maximum of 15 credits may be selected from the Departments of ANT, BMB, P&B, PHR, CHM, GL, MTH, STT, PHY, PSY, ATH, CL, EH. A maximum of eight credits of independent study courses may apply: i.e. BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499. Departmental honors students may apply up to 12 credits of BIO 495.

General Electives 7-10

Total 187

Bioinformatics

The bioinformatics track prepares students to assist in the application and development of computational tools and approaches used to acquire, store, organize, archive, analyze, and visualize dramatically increasing amounts of publicly available biological data. Students completing the program obtain a major in Biological Sciences and a minor in Computer Science as they develop an appreciation for the substantially different vocabulary and problem solving approaches used in both disciplines. Numerous internship opportunities are available for students seeking real-world experience in areas such as stream-lined drug discovery, genome analysis, and the review of forensic DNA profiling testing results.

Degree Requirements—
Biological Sciences/Bioinformatics Option

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230, 231 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)

AREA VI
EH 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121, 122, 123, 211/215, 212/216, 213/217 33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204 15 16
MTH 229, 230, 231, 253, 257, BIO 420 24

Life Science Electives 40

Area D
Selected from 300- and 400- level courses. A minimum of 25 credits must have BIO, M&L, or EXB prefix. A maximum of 15 credits may be selected from the Departments of ANT, BMB, P&B, PHR, CHM, GL, MTH, STT, PHY, PSY, ATH, CL, EH. A maximum of eight credits of independent study courses may apply: i.e. BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499. 8 credit hours of CS 400 and 405 can be used. Departmental honors students may apply up to 12 credits of BIO 495.

Computer Science Requirements 20
CS 240, 241, 242, 400, 405

Total 208

Exercise Biology

Exercise biology consists of three major areas of study, namely: exercise physiology, human motor behavior, and human biomechanics. This program is designed to promote and integrate scientific research, education, and practical applications of all aspects of exercise biology to prepare the undergraduate in fields of physical performance, fitness, health/wellness, and research. Course work and practical experience is designed with the American College of Sports Medicine objectives for comprehensive knowledge in the field. Outcomes of study include the opportunity to take the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA) certification exams.

Degree Requirements—
Biological Sciences/Exercise Biology Option

Bachelor of Science Degree

Students must achieve a grade of “C” or better in each course to fulfill the department’s requirements for the degree.

General Education (see page 55) 40

Required Substitutions:
AREA I: STT 264 and 265 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)

AREA VI
EH 205 or PSY 110
Departmental Core Requirements

BIO 111, 112, 115, 210, 212 20
EXB 194, 260, 261, 321, 352, 353, 354, 355, 450, 451, 466, 482 44

Supporting Requirements

CHM 121, 122, 123, 211/215, 212/216, 213 or BMB 423 31
PHY 111/101, 112/102 10
MTH 130, STT 264, 265 13
ANT 201, 202, BIO 278, 279, BMB 250 21

Life Science Electives 10

A minimum of 10 credit hours selected from 300- and 400-level courses in the COSM, ANT, BMB, M7I, and/or P&B and Nursing

Total 189

Degree Requirements—Biological Sciences

Bachelor of Arts Degree

The Bachelor of Arts curriculum is less structured than the Bachelor of Science curriculum. It provides a substantial foundation in the biological and physical sciences, while the large number of electives allows students considerable flexibility to meet their individual educational objectives. Students must work with their advisor to formulate a specific plan of study.

Students must achieve a grade of “C” or better in each course used to fulfill the departmental requirements and the departmental electives of this degree.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 130 & 145 or MTH 130, STT 264 and 265 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)

AREA VI
EH 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121, 122, 123, 211/215, 212, 213 29
PHY 111/101, 112/102, 113/103 15
MTH 130 & 145 or MTH 130, STT 264 and 265 9–13

Life Science Electives 15

Area D
Select a minimum of 15 credits from 300- and 400-level courses in Biology (BIO prefix). You may apply up to 5 credits of independent study courses (BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499)

Total 189

Minor Program

Students majoring in another department may earn a minor in biological sciences. The minor includes at least 36 credit hours from a broad selection of courses in both biological sciences and environmental health distributed as follows:

Departmental Core Requirements

BIO 111, 112, 115, 492 14
22 credit hours of BIO or approved EH courses 22

Total 36

Minimum entry requirements include 24 hours (or equivalent) of previous university course work with grades of “C” or better, and an overall 2.0 GPA in three introductory biology courses (BIO 111, 112, 115 preferred). Successful completion of a biological sciences minor requires a grade of “C” or better in program courses. Note that many BIO and EH courses themselves have specific course prerequisites.

Clinical Laboratory Science
(Previously Medical Technology)

The Clinical Laboratory Science program includes three years of prescribed study at Wright State University and a one-year clinical laboratory curriculum in a clinical laboratory science program accredited by the American Medical Association Council on Medical Education through the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Avenue, Suite 670, Chicago, IL. Upon successfully completing the program, students receive the Bachelor of Science in Clinical Laboratory Science degree. They also become eligible to take the national certification examination given by the Board of Registry for Medical Technologists (ASCP) and the CLS examination administered by the National
Certification Agency for Laboratory Personnel. Through special arrangements, students may obtain their clinical education in other programs of clinical laboratory science accredited by the NAACLS after they receive approval from the chair of the Department of Biological Sciences.

In the fall quarter of their preclinical year, students apply, through the department, for admission into the clinical laboratory program. Criteria used to determine admission include the academic record, letters of recommendation, and results of a personal interview. The number of positions in each class for the clinical year program is limited.

Degree Requirements—
Clinical Laboratory Science

Bachelor of Science in Clinical Laboratory Science Degree

Students must achieve a grade of “C” or better in each course used to fulfill the departmental requirements and clinical program requirements of this degree.

General Education (see page 55) 40

Required Substitutions:
AREA I: STT 264 and 265 (counted in Section III)
AREA V: CHM 121, 122, 123 (counted in Section III)

AREA VI
EH 205 or PSY 110

Departmental Core Requirements

BIO 112
BIO 252, 303, 210, 211, 213 476/477

Supporting Requirements

CHM 121, 122, 123, 211/215, 212/216, 213/217
CHM 312/314
MTH 129; STT 264, 265
M&L 426, BMB 427
CS 205

Clinical Program 65

Total 196.5

In a program such as this, the order in which courses are taken is of extreme importance. The required program should be followed, and all individual course schedules should be planned with an advisor.

Clinical Laboratory Science
Clinical Year Program

The College of Science and Mathematics offers a comprehensive Clinical Laboratory Science Program that provides participating students with the academic preparation and clinical skills needed to be a qualified practitioner. The curriculum begins in June and includes one quarter of basic lecture/laboratory courses on campus, followed by three quarters of supervised clinical rotations in nine cooperating affiliated clinical facilities: The Children’s Medical Center, Veterans Affairs Medical Center, Greene Memorial Hospital, Good Samaritan Hospital and Health Center, Upper Valley Medical Center, Reid Hospital, Miami Valley Hospital, McCullough-Hyde Memorial Hospital, Kettering Medical Center, Gene Screen, Community Blood Center, and ComputSet Clinical Laboratories. Upon successfully completing the program, students are eligible to receive the Bachelor of Science in Clinical Laboratory Science degree, provided they meet the requirements for the degree stated in this catalog.

Prerequisites, Application, and Admission

Requirements for admission to the clinical year program are set by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Prerequisites include inorganic chemistry, organic chemistry and/or biochemistry, general biological sciences, microbiology, immunology, and mathematics. Applicants must also have a bachelor’s degree or be eligible for one upon completing the program and an overall GPA of 2.5.

Eligible applicants from nonaffiliated universities will be considered. These applicants must also meet NAACLS criteria before they can enter the program.

Applicants with a foreign baccalaureate degree must meet NAACLS criteria before they enter the clinical year program.

Admission to Wright State University does not automatically guarantee admission into the clinical year program.

Applicants should submit their application materials and schedule an interview with Clinical Laboratory Science Program director during the fall quarter of the year before they enter the program.

Curriculum Outline

Course Requirements

CL 420—Introduction to Clinical Lab Science
CL 422—Laboratory Management
CL 423—Clinical Pathology Seminar
CL 431—Urine and Body Fluid Analysis
CL 441—Hematology
CL 442—Advanced Hematology
CL 443—Clinical Hematology Practicum
CL 451—Principles of Homeostasis
CL 461—Clinical Chemistry
CL 462—Advanced Clinical Chemistry
### Allied Health Programs

Students can begin with two years at Wright State University and gain an excellent foundation while satisfying many of the college requirements for application to the Ohio State programs listed below.

**Allied Health Areas**
- Medical Dietetics
- Circulation Technology
- Health Information Management and Systems
- Occupational Therapy
- Radiological Technology
- Respiratory Therapy

Students wanting a degree in Physical Therapy should complete the Bachelor of Science in Exercise Science and then transfer to Ohio State's Master of Physical Therapy. For more information on these programs contact the Department of Biological Sciences.

### Environmental Health Sciences

Our program is one of only 24 nationwide accredited by the National Environmental Health Science and Protection Accreditation Council. The curriculum in environmental health sciences provides students with a sound academic background and the specialized training needed for them to work effectively in several areas involving environmental quality management. Career opportunities include work in public health and environmental protection agencies, environmental consulting firms and analytical laboratories, and health and safety programs in industries as well as natural resource management. The program also prepares students for graduate programs in public health and environmental sciences. A field internship program, operated in cooperation with participating environmental health agencies or industries, gives students an opportunity to gain practical work experience. Students should consult with their advisor when planning their program to ensure that it meets their needs and interests.

### Degree Requirements—Environmental Health Sciences

#### Bachelor of Science Degree

A grade of "C" or better must be achieved in each course used to fulfill the environmental sciences core, required supporting courses in biological sciences, environmental specialty courses, and supporting electives units of this degree.

**General Education (see page 55)**

40

**Required Substitutions:**

AREA I: MTH 228, STT 264, 265 (counted in Section II)

AREA V: BIO 111, 112, 115 (counted in Section II)

**Required Selections:**

AREA III

EC 200

AREA VI

EH 205

#### Science Core

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<td>PHY 101, 102, 111, 112</td>
<td>10</td>
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<td>MTH 228, STT 264, 265</td>
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#### Environmental Health Sciences Core

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<td>EH 292, 360, 362, 364, 366, 368, 401, 492, 416, 431, 454, 461, 462, 466, 467, 472</td>
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<td>BIO 413, 464</td>
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#### Environmental Electives

Choose from:

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<td>BIO 407, 411, 473, 475, 476, 477</td>
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<td>GL 461</td>
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</table>

**Total**

190

*In a program such as this, the order in which courses are taken is of extreme importance. The required program should be followed, and all individual course schedules should be planned with an advisor.

### Minor Program

An Environmental Health Sciences minor is available to all WSU students, regardless of major. Students must have junior standing, a 2.0 GPA, and an interest in environmental issues. Thirty-five credits are required for the minor. The thirty-five hours minimum permits the student to select from a broad array of environmental courses suited to individual needs. Students choosing the EHS minor take 15 credit hours of the following EHS survey courses requiring junior standing, and which will
provide the student with a conceptual foundation in the environmental sciences:

EH 362 General Environmental Health
EH 364 Solid and Hazardous Waste Management
EH 401 Environmental Protection: Law, Regulation and Enforcement
EH 451 Environmental Management and Risk Communication
EH 472 Air Quality Management

Biological Sciences Education

Students who wish to teach biology or chemistry in Ohio public high schools can pursue the B.A. or B.S. degree in biological sciences. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students need to complete the Professional Educators Program (PEP) Master of Education degree (M.Ed.) through Wright State’s College of Education and Human Services. Graduates of the B.A. or B.S. in biological sciences and the M.Ed. Professional Educators Program are then eligible to seek licensure from the Ohio Department of Education in Life Sciences or Life Sciences/Chemistry, depending on the content of the undergraduate curriculum.

Degree Requirements—
Biological Sciences Education

Bachelor of Science Degree (Life Sciences/Chemistry)

The Adolescent to Young Adult Life Sciences/Chemistry Licensure Program is based on an undergraduate Bachelor of Science degree in biological sciences.

General Education (see page 55)

Required Substitutions:
AREA I: MTH 228 or 229 and 230, or STT 264 and 265 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)
AREA VI EHS 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121, 122, 123, 211/215, 212/216, 213/217 33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204 15–16
GL 251/252 4.5
MTH 228, STT 264 and 265 or MTH 229, 230, 231 13–15

Life Science Electives

Area D
Selected from 300- and 400-level courses. A minimum of 25 credits must have BIO, M&I, or EXB prefix. A maximum of 15 credits may be selected from the Departments of ANT, BMB, P&B, PHR, CHM, GL, MTH, STT, PHY, PSY, ATH, CL, EH. A maximum of eight credits of independent study courses may apply: i.e. BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499. Departmental honors students may apply up to 12 credits of BIO 495. Must include CHM 312/314 and 451

Phase One Professional Education Courses 15

ED 211, 223, 301, 303, EDS 333

Total 186.5

Degree Requirements—
Biological Sciences Education

Bachelor of Science Degree (Life Sciences)

The Adolescent to Young Adult Life Sciences Licensure Program is based on an undergraduate Bachelor of Science degree in biological sciences.

General Education (see page 55)

Required Substitutions:
AREA I: MTH 228 or 229 and 230, or STT 264 and 265 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)

Area VI
EH 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121, 122, 123, 211/215, 212/216, 213/217 33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204 15–16
MTH 228, STT 264 and 265 or MTH 229, 230, 231 13–15
CS 205 or 141, or 142 or CHM 312/314 4–7.5

Area D
Selected from 300- and 400-level courses. A minimum of 25 credits must have BIO, M&I, or EXB prefix. A maximum of 15 credits may be selected from the Departments of ANT, BMB, P&B, PHR, CHM, GL, MTH, STT, PHY, PSY, ATH, CL, EH. A maximum of eight credits of independent study courses may apply: i.e. BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499. Departmental honors students may apply up to 12 credits of BIO 495.
Degree Requirements—Biological Sciences Education

Bachelor of Arts Degree (Life Sciences)

The Adolescent to Young Adult Life Sciences Licensure Program is based on an undergraduate Bachelor of Science degree in Biological Sciences.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 130 & 145 or (counted in Section III)
MTH 130, STT 264 and 265
AREA V: BIO 111, 112, 115 (counted in Section II)

AREA VI
EH 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121, 122, 123, 211/215, 212, 213 29
PHY 111/101, 112/102, 113/103 15
MTH 130 & 145 or
MTH 130, STT 264 and 265 9–13

Life Science Electives 18.5

Area D
Select a minimum of 15 credits from 300- and 400-level courses in Biology (BIO prefix), GL 251/252, 253/254, 255/256 required electives counted toward life science electives. You may apply up to 5 credits of independent study courses (BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499).

College Requirement 27

Twenty-seven credit hours outside the College of Science and Mathematics and the College of Engineering and Computer Science. Select a minimum of 13 credits from additional 300-400 level courses from any department.

Phase One Professional Education Courses 15

ED 211, 223, 301, 303, EDS 333

Total 189.5

Biological Sciences Honors Program

An honors program allows qualified students to carry out independent projects under the guidance of faculty sponsors. Students who have maintained a cumulative GPA of 3.4 during the preceding three quarters may apply to the Department of Biological Sciences to pursue an honors program. Application for admission to the program should be made during the student’s junior year. Students interested in the honors program should contact the departmental office.

Dual Major Program

The Department of Biological Sciences participates in the university’s dual major program with the Department of Chemistry. Students should refer to the Department of Biological Sciences office for program requirements.

Bachelor of Science—Dual Chemistry

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229 and 230 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)

AREA VI
EH 205 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115 12
BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121, 122, 123, 211/215, 212, 213 29
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204 15–16
MTH 229, 230, 231 15

Life Science Electives 40

Area D
Selected from 300- and 400-level courses. A minimum of 25 credits must have BIO, M&L, EXB prefix. A maximum of 15 credits may be selected from the Departments of ANT, BMB, P&B, PHR, CHM, GL, MTH, STT, PHY, PSY, ATH, CL, EH. A maximum of eight credits of independent study courses may apply: i.e. BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499. Departmental honors students may apply up to 12 credits of BIO 495.

Additional Chemistry Requirements

CHM 213/314, 451, 452/457, 453/458 22.5

Total 201.5
Chemistry

Professors Battino (Emeritus), Feld, Fortman (Emeritus), Gilpin, Katovic, Ketcha, Servé (Emeritus), Seybold (chair)
Associate Professors Bombick, Dolson, Grossie, McGowin, Turnbull
Assistant Professors Fossum, Higgins, Lunsford

The Department of Chemistry offers programs leading to the Bachelor of Arts, Bachelor of Science, and Master of Science degrees in chemistry. The Bachelor of Science in Education degree is also available with a concentration in chemistry. The Bachelor of Arts and Bachelor of Science curricula are designed to prepare undergraduate students for careers as professional chemists, entrance into medical or dental schools, or graduate work in chemistry. Both programs are flexible and permit the options of a heavy concentration in chemistry courses or a combination of a chemistry major with extensive course work in allied (other sciences) or nonallied (e.g., business, arts) areas. In order to develop their academic programs to meet specific needs and individual interests, students should consult their academic advisors. The Bachelor of Science program is certified by the American Chemical Society.

Degree Requirements—Chemistry

Bachelor of Science Degree

The Bachelor of Science candidate is required to complete the chemistry, mathematics, and physics course sequences in the following program outline with these exceptions: CHM 499, Special Problems in Chemistry, is not required. However, it is expected that the serious chemistry major will complete at least four credit hours of this research course during the senior year.

In the Bachelor of Science program with an orientation for premedical students or others wishing a broader science base, CHM 417, 419, 420, 421, 425, and BMB 421 are not required. The physics requirement may be met with the PHY 111, 112, 113 sequence and PHY 101, 102, 103 laboratories. BIO 111, 112, and 115 are required. At least two courses must be selected from BIO 210, 211, 212, 252, 256, 303, 305, 403. Courses in other sciences may substitute for these BIO courses with departmental permission. In addition, students must take at least eight credit hours selected from BMB 421, 423; CHM 402, 417, 420, 421, 440, 441, 443, 444, 461, 465/467. Students serious about medical school should elect BMB 421 and 423. Students should also be careful to fulfill all university and college degree requirements. Copies of a more detailed premedical program may be obtained from the College of Science and Mathematics Premedical Advisor.

Because the order in which science courses are taken is so important, students are advised to begin the mathematics, chemistry, and physics sequences as soon as possible.

Bachelor of Science in Chemistry
(with ACS certification)

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in section II)
AREA V: CHM 121, 122, 123 (counted in section III)

AREA VI
EH 205 or PSY 110

Core Requirements

MTH 229, 230, 231 15

PHY 240/200, 242/202, 244/204 16

Departmental Core and Elective Requirements

CHM 121, 122, 123 15

CHM 211/215, 212/216, 213/217 18

CHM 312/314, 417, 419, 451, 452, 453, 457, 458 28.5

CHM 420, 421, 425, 435/436, BMB 421 20.5

Electives 43

CHM 499 and EGR 153 are recommended along with at least one year of a foreign language.

Total 196

Bachelor of Science in Chemistry
(premed option)

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in section II)
AREA V: CHM 121, 122, 123 (counted in section III)

AREA VI
EH 205 or PSY 110

Core Requirements

BIO 111, 112, 115 12

Two from BIO 210, 211, 212, 252, 256, 303, 305, 403 7–10

MTH 229, 230, 231 15

PHY 240/200, 242/202, 244/204, or 111/101, 112/102, 113/103 15–16
### Departmental Core and Elective Requirements

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<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<td>CHM 121, 122, 123</td>
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<tr>
<td>CHM 211/215, 212/216, 213/217</td>
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<tr>
<td>CHM 312/314, 451, 452, 453, 457, 458</td>
<td>28.5</td>
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<tr>
<td>CHM 435/436</td>
<td>7.5</td>
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<tr>
<td>Eight hours from BMB 421, 423, CHM 402, 417, 420, 421, 440, 441, 443, 444, 461, 465/467</td>
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<tr>
<td>Electives</td>
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</tr>
<tr>
<td>CHM 499 and EGR 153 are recommended along with at least one year of a foreign language.</td>
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<tr>
<td><strong>Total</strong></td>
<td>196</td>
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</tbody>
</table>

### Degree Requirements—Chemistry

#### Bachelor of Arts Degree

The Bachelor of Arts degree candidate is required to complete the chemistry, mathematics, and physics course sequences in the following program outlines. Additional requirements include 12 hours of science electives and two years of foreign language study. The science elective requirement may be satisfied with any course sequence in the College of Science and Mathematics or the College of Engineering and Computer Science, including additional chemistry courses or individual research projects (CHM 499). The foreign language requirement may be satisfied with two years of study in any foreign language or one year each of two languages.

Chemistry majors who are Bachelor of Arts degree candidates are also required to earn 27 credit hours (18 of which must be 200 level or above) outside the Colleges of Science and Mathematics and Engineering and Computer Science. This requirement may not be satisfied with courses used to fulfill foreign language or General Education requirements. In order to ensure a reasonably high level of exposure in some area, it is further required that students complete at least 30 hours in courses numbered 300 or higher applicable to the degree.

#### Bachelor of Arts in Chemistry

<table>
<thead>
<tr>
<th>General Education (see page 55)</th>
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<tbody>
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<td>Required Substitutions:</td>
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<td>AREA I: MTH 229, 230 (counted in section II)</td>
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<td>AREA V: CHM 121, 122, 123 (counted in section III)</td>
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<td>AREA VI</td>
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<tr>
<td>Core Requirements</td>
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<td>MTH 229, 230, 231</td>
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### Dual Major Degree Requirements—Chemistry

#### Dual Major Requirements in Chemistry

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<td>AREA V: CHM 121, 122, 123 (counted in section III)</td>
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<td>AREA VI</td>
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<td>EH 205 or PSY 110</td>
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</tr>
<tr>
<td>Core Requirements</td>
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<td>MTH 229, 230, 231</td>
<td>15</td>
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<tr>
<td>PHY 240/200, 242/202, 244/204, or 111/101, 112/102, 113/103</td>
<td>15–16</td>
</tr>
<tr>
<td>Electives</td>
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<tr>
<td>Departmental Core and Elective Requirements</td>
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<tr>
<td>CHM 121, 122, 123</td>
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<td>CHM 211/215, 212/216, 213/217</td>
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<td>CHM 312/314, 451, 452/457, 453/458</td>
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<td>Electives</td>
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<td>Foreign language</td>
<td>21</td>
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<tr>
<td>Additional courses outside COSM and CECS</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total (minimum requirement)</strong></td>
<td>193.5</td>
</tr>
</tbody>
</table>

### Chemistry Education

Students who wish to teach chemistry in Ohio public high schools can pursue the Bachelor of Science degree in chemistry. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then need to complete the Professional Educators Program (PEP) Master of Education degree (M.Ed.) through Wright State’s College of Education and Human Services. Graduates of the B.S. in chemistry and the M.Ed. Professional Educators Program are then eligible to seek licensure from the Ohio Department of Education in chemistry or chemistry in combination with another science field depending on the content of the undergraduate curriculum.
Degree Requirements—
Chemistry Education

Bachelor of Science in Chemistry—
Chemistry Education

The Adolescence to Young Adult Chemistry Licensure Program is based on an undergraduate Bachelor of Science degree in chemistry.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in section II)
AREA V: CHM 121, 122, 123 (counted in section III)

AREA VI
EH 205 or PSY 110

Core Requirements

BIO 111, 112 8
MTH 229, 230, 231 15
PHY 240/200, 242/202, 244/204 16
GL 251/252, 253/254, 255/256 13.5
ED 221, 223, 301, 303; EDS 333 15

Departmental Core and Elective Requirements

CHM 121, 122, 123 15
CHM 211/215, 212/216, 213/217, 312/314 25.5
CHM 451, 452, 453, 457, 458 15
CHM 499 9
CHM electives from CHM 417, 420, 421, 435/436; BMB 421 9

Electives 15

Total 196

Chemistry Honors Program

The honors program in chemistry is designed to provide recognition to the gifted student who pursues a program of independent study under the guidance of a faculty advisor. The program is open to any chemistry major in the B.S. program having at least junior standing and a 3.25 or better overall GPA including 3.40 or better average in at least four quarters of chemistry. The normal time for application for admission is at the end of the sophomore year and no later than the end of the junior year.

Students apply for admission by contacting the chairman of the departmental undergraduate studies committee who will examine the student’s record to determine eligibility. Eligible students are asked to submit a short statement (no longer than one typed page) indicating (1) why he/she wishes to pursue departmental honors, (2) the faculty member who has agreed to work with him/her, and (3) a description of the proposed project. Upon acceptance into the program, the student should undertake at least 12 credits of CHM 488 and/or 499. Student also must pass two elective 300 or 400 level chemistry courses with prior departmental approval extra courses in other sciences (300 level or above) may be substituted.

Geological Sciences

Professors Gregor, Kulander, Wolfe (chair)

Associate Professors Agrawal, Carney, Cheng, Dominic, Hauser, Ritzi, Slattery

Assistant Professors Brame, Strickland (WSU–Lake Campus), Watts

The Department of Geological Sciences offers programs leading to the Bachelor of Science and Bachelor of Arts degrees in geological sciences. Both programs are designed to include geology and related sciences and to prepare students for graduate study or professional employment. Professional geologists are employed in protecting and enhancing existing resources (environment, surface, and ground waters) as well as in exploring for new resources (oil, gas, and minerals). The Bachelor of Science program is more highly structured, and through the various options offered, is intended to prepare students for specific professional or technical objectives. The Bachelor of Arts program is intended to be more flexible and to permit students with either broad or specialized interests to fulfill their program needs. The Bachelor of Arts program’s flexibility readily permits interdisciplinary programs such as the dual major, in which students may major in two quite different fields simultaneously. A minor is also available.

Since personal objectives, interests, and aptitudes vary considerably with each individual, the department tries to offer a broad spectrum of educational options within a framework of sound academic guidelines. Students majoring in geological sciences have considerable choice in the basic program, options, and elective courses. Students should be aware of these choices as early as possible because course sequencing, particularly in Bachelor of Science options, is a critical factor. For this reason, all students are strongly urged to consult their advisor to develop an individual program.
Geological Sciences Honors Program

Candidates for the B.A. or B.S. degree in geological sciences who have a cumulative GPA of 3.0 or better may apply at the end of their junior year for admission to the departmental honors program. Requirements for graduation with honors in geological sciences are a cumulative GPA of 3.0 or better and satisfactory completion of a senior thesis under the guidance of a faculty member. The senior thesis requires a total of between six and nine credits in GL 499. Students may choose the topic from any branch of geological sciences; current course listings in this catalog may be taken as a rough indication of the range available.

Applications to the honors program should be made in writing to the Undergraduate Studies Committee, Department of Geological Sciences, and should include the following:

1. A summary proposal (of about 200 words) for a senior thesis topic
2. Expected date of graduation (which must be at least three full quarters, not including summer quarter, after the date of the application)
3. The endorsement of the student’s departmental advisor and that of the senior thesis advisor, if not the same

Electives and Requirements

Supporting electives are courses from the College of Engineering and Computer Science and the College of Science and Mathematics (excluding Psychology) that are not normal preparation or prerequisites for required courses and are not primarily designed for General Education. Up to eight credit hours of geological sciences courses may be used to satisfy this requirement. Any geological sciences course that is jointly listed with another department must be taken as a geological sciences course in order to qualify as a supporting elective. In addition to courses that satisfy the above criteria, up to eight credit hours from the courses listed below may be used as supporting electives: ATH 242, 300, 351; GEO 330, 331, 361, 362, 365, 432, 445, 446, 447, 463; PHY 107/117. Students should examine prerequisites before selecting any of these courses. GL 434—Field Geology is required for all degree options. This five-week course is held in the Smoky Mountains during the summer quarter; students reside at Maryville College in Tennessee. The department offers some courses that may be taken more than once (e.g. GL 399—Special Problems). These courses may have variable specific titles (e.g. GL 399—Paleontology and Stratigraphy of Ohio). A student may count multiple sections of such a course toward satisfying the geology elective/supporting elective requirement. However, a specific course may be applied toward this requirement only once.

Students who have taken the General Education geology sequence (100 level) are not required to take GL 251, 253, and 255. However, they are required to take GL 252, 254, and 256. Minor modifications in departmental programs will be made from time to time. It is the students’ responsibility to confer with their advisors periodically during the academic year, preferably once each quarter before registration.

Degree Requirements—Geological Sciences/General Geology Option

Bachelor of Science Degree—Geological Sciences

The Department of Geological Sciences offers a Bachelor of Science degree in geological sciences with a general geology option. The course requirements and recommended course sequences follow.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in section III)
AREA V: GL 251/252, 253/254, 255/256 (counted in section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Requirements

GL 251/252, 253/254, 255/256 13.5
GL 381, 383, 385 15
GL 485, 486, 487 13
GL 311, 428 (three quarters, 1.5 credits), 434 15
Geological Science Electives 21

Related Course Requirements

CHM 121,122, 123 15
CEG 220 or EGR 153 or CS 141 4
MTH 229, 230 10
PHY 240/200, 242/202, 244/204 16
STT 264 or 360 4
One course from MTH 231, STT 265, or STT 361 4–5
Supporting electives 16–17

Unrestricted Electives 13

Total 200.5

*It is generally recommended that students take GL 381 (fall), GL 383 (winter), and GL 385 (spring) the year following completion of the GL 251–255 sequence. GL 485 (fall), GL 486 (winter), and GL 487 (spring) should be taken the following year. Note that GL 485 is a prerequisite for GL 487.
Degree Requirements—
Geological Sciences

Bachelor of Arts Degree

The Bachelor of Arts curriculum is designed for students who desire scientific training, especially through interdisciplinary programs. Because of its broad and flexible approach, students who elect to follow a Bachelor of Arts program should have specific educational objectives that can be reasonably attained through this program.

General Education (see page 55) 44
Required Substitutions:
AREA V: GL 251/252, 253/254, 255/256 (counted in section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Requirements
GL 251/252, 253/254, 255/256 13.5
GL 311, 422, 428 (three quarters, 1.5 credits), 434, 485 28.5
Choose 27.5–29.5 hours from non-chosen option above or from below:
GL 201, 304, 309, 405, 421, 431, 444, 455, 461, 463, 470, 499 27.5–29.5

Related Course Requirements
CHM 121, 122, 123 15
CHM 302 4
MTH 229, 230 10
PHY 240/200, 242/202, 244/204 16
STT 264, 265 or 360, 361 8
CEG 220 or EGR 153 or CS 141 4
Supporting Electives 8
Unrestricted Electives 6

Total 195.5

Bachelor of Arts Degree

The environmental geosciences option prepares the graduate for a technical career investigating, remediating, or managing environmental resources. Its broad and flexible approach allows students to combine scientific training with other fields such as business and management, public policy, or communication.

B.A. Environmental Geosciences

General Education (see page 55) 44
Required Substitutions:
AREA V: GL 251/252, 253/254, 255/256 (counted in section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Requirements
GL 251/252, 253/254, 255/256 13.5
GL 201, 309, 311, 401, 428 (three quarters, 1.5 credits), 434, 485 32
Choose 15.5 hours among: 405, 421, 422, 431, 444, 450, 455, 461, 463, 470, 486, 487, 499 15.5

Related Course Requirements

BIO 111, 112, 115 or PHY 111, 112, 113 or CHM 121, 122, 123 12–15
Supporting Electives
Mathematics and Statistics 25
Electives outside Colleges of Science and Mathematics and Engineering and Computer Science 27
Unrestricted Electives 10

Total 189

Degree Requirements—Geological Sciences/Geophysics Option

Bachelor of Science Degree

The Department of Geological Sciences, in cooperation with the Department of Physics, offers a Bachelor of Science degree in geological sciences with a geophysics option. This program prepares students to begin a career in this field or to pursue graduate study in geophysics.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in section II)
AREA V: GL 251/252, 253/254, 255/256 (counted in section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Requirements

GL 251/252, 253/254, 255/256 13.5
GL 381, 383, 385 15
GL 311, 428 (three quarters, 1.5 credits), 434, 485, 487 23.5
GL 422, 423, 424, 426 14
Geological Sciences or Physics Electives 24

The recommended sequence is as follows.

Freshman Year
CHM 121, 122, 123; ENG 101, 102; GL 251, 252, 253, 254, 255, 256; MTH 229, 230, 231

Sophomore Year
GL 381, 383, 385; MTH 232, 233; PHY 240/200, 242/202, 244/204; General Education courses

Junior Year
GL 311, 485, 487, 434; PHY 260; CEG 220

Senior Year
GL 422, 423, 424, 426, 428; geological sciences electives; physics or mathematics electives; General Education courses

Geological Sciences Education

Students who wish to teach earth sciences in Ohio public high schools can pursue the Bachelor of Arts degree in geological sciences. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then need to complete the Professional Educators Program (PEP) Master of Education degree (M.Ed.) through Wright State’s College of Education and Human Services. Graduates of the B.A. or B.S. in geological sciences and the M.Ed. Professional Educators Program are then eligible to seek licensure from the Ohio Department of Education in Earth and Space Sciences, Earth Sciences/Chemistry or Life Sciences/Earth Sciences, depending on the content of the undergraduate curriculum.

Degree Requirements—Geological Sciences Education

Bachelor of Arts Degree (Earth and Space Sciences)

The Adolescent to Young Adult Earth and Space Sciences Licensure Program is based on an undergraduate Bachelor of Arts degree in geological sciences.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 228 (counted in section II)
AREA V: GL 251/252, 253/254, 255/256 (counted in section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Requirements

GL 251/252, 253/254, 255/256 13.5
### Degree Requirements—Geological Sciences Education

#### Bachelor of Arts Degree (Earth Sciences/Chemistry)

The Adolescent to Young Adult *Earth Sciences/Chemistry* Licensure Program is based on an undergraduate Bachelor of Arts degree in geological sciences.

**General Education (see page 55)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Requirements</th>
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<tr>
<td>I</td>
<td>MTH 229 (counted in section II)</td>
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<tr>
<td>V</td>
<td>GL 251/252, 253/254, 255/256 (counted in section II)</td>
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**Related Course Requirements**

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<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>GL 311, 485, 486, 428 (three quarters, 1.5 credits)</td>
<td>24</td>
</tr>
<tr>
<td>GL 201 304, 309, 401, 499 (Oceanography)</td>
<td>19.5</td>
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<td>Geological Sciences Electives</td>
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**Related Course Requirements**

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<th>Credits</th>
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<tbody>
<tr>
<td>BIO 111, 112, 115</td>
<td>12</td>
</tr>
<tr>
<td>CHM 121,122, 123</td>
<td>15</td>
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<tr>
<td>PHY 107/117, 101/111, 102/112, 103/113</td>
<td>19</td>
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<tr>
<td>Mathematics and Statistics (Must include MTH 228 and STT 264)</td>
<td></td>
</tr>
<tr>
<td>MTH 228 and STT 264</td>
<td>10</td>
</tr>
</tbody>
</table>

**Electives outside the Colleges of Science and Mathematics and Engineering and Computer Science Must include GEO 430 or 331, and ED 221, 223, 301, 303, EDS 333**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Electives outside the Colleges of Science and Mathematics and Engineering and Computer Science</td>
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</tbody>
</table>

**Unrestricted Electives**

<table>
<thead>
<tr>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
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</table>

### Degree Requirements—Geological Sciences Education

#### Bachelor of Arts Degree (Life Sciences/Earth Sciences)

The Adolescent to Young Adult *Life Sciences/Earth Sciences* Licensure Program is based on an undergraduate Bachelor of Arts degree in geological sciences.

**General Education (see page 55)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>MTH 228 (counted in section II)</td>
</tr>
<tr>
<td>V</td>
<td>GL 251/252, 253/254, 255/256 (counted in section II)</td>
</tr>
</tbody>
</table>

**Required Substitutions:**

- **AREA VI:**
  - Choose one
  - AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL 251/252, 253/254, 255/256</td>
<td>13.5</td>
</tr>
<tr>
<td>GL 201 or 304, 311, 309, 401, 428 (three quarters, 1.5 credits), 434, 485, 486, and 499 (Oceanography)</td>
<td>39.5</td>
</tr>
<tr>
<td>Geological Sciences Electives</td>
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</tbody>
</table>

**Related Course Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 111, 112, 115, 210, 211, 212, 252, 278, 279, 426, 492</td>
<td></td>
</tr>
<tr>
<td>CHM 121,122, 123</td>
<td></td>
</tr>
<tr>
<td>Mathematics and Statistics (Must include MTH 228 and STT 264)</td>
<td></td>
</tr>
<tr>
<td>PHY 107/117, 111/101</td>
<td></td>
</tr>
</tbody>
</table>

**Electives outside the Colleges of Science and Mathematics and Engineering and Computer Science Must include GEO 430 or 331, and ED 221, 223, 301, 303, EDS 333**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Electives outside the Colleges of Science and Mathematics and Engineering and Computer Science</td>
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**Total**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>204</td>
</tr>
</tbody>
</table>

### Minor Program

Students majoring in another department may earn a minor in geological sciences. A minor in geological sciences can improve a student's
credentials for employment or for acceptance into graduate school. The minor requires a minimum of 34.5 credit hours. At least 10 of the credit hours used toward the minor may not be geology courses required by the student’s degree program. A GPA of 2.0 must be attained in the minor courses. A minor will be completed when the following requirements are satisfied.

Minor Requirements—Geological Sciences

Departmental Requirements 34.5

GL 251/252, 253/254, 255/256, or 13.5
GL 105, 106, 107, 252, 254, 256

A minimum of 8.5 credit hours selected from:
- GL 311, 381, 383, 385
- GL 485, 486, 487, 434
- 0.5 credit hour of GL 428

Elective Courses

A minimum of 12 credit hours of geological sciences electives is required. In selecting these courses, the following applies:
1. No courses numbered below 200 are acceptable.
2. No more than four credit hours of courses numbered below 300 are acceptable.
3. No more than 1.0 credit hour of GL 428 (in addition to the 0.5 credit hour required) is acceptable.
4. No more than three credit hours of field-oriented courses (excluding GL 434) are acceptable.

Total 34.5

Integrated Science

Students who wish to teach integrated sciences in Ohio public high schools can pursue the B.S. degree in comprehensive science. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then need to complete graduate level teacher preparation program through Wright State’s College of Education and Human Services. Graduates of the B.S. in integrated science with the M.Ed. through the College of Education and Human Services are then eligible to seek licensure from the Ohio Department of Education in Integrated Sciences.

Degree Requirements—Integrated Sciences Education

Bachelor of Science Degree
The Adolescent to Young Adult Integrated Sciences Licensure Program is based on an undergraduate Bachelor of Science degree in the College of Science and Mathematics.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in Section III)
AREA V: BIO 111, 112, 115 (counted in Section II)

AREA VI:
EH 205 or PSY 110

Core Requirements

BIO 111, 112, 115, 252, 254, 278, 279, 426 34
CHM 121, 122, 123 15
CHM 211/215, 212/216, 213/217 18
GL 201, 251/252, 253/254, 255/256, 309, 486 or 342 or 399 (four crs.) 499 Oceanography 30
PHY 107/117, 240/202, 242/202, 244/204, 260, 315, 420, 446 34

Required Supporting Courses 18

GEO 430 or 331
MTH 229, 230
STT 264

Phase One Professional Education Courses 15

ED 221, 223, 301, 303; EDS 333

Total 204

Mathematics and Statistics

Professors Arasu, Dombrowski, Evans, Hou, Khamis, Mann (Emeritus), Mc Kee (Associate Dean), Miller, Park (Emeritus), Pedersen, Perkel (Chair), Ratnaparkhi, Rutter (Emeritus), Seoh, Voss

Associate Professors Farrell, Ho, C. Huang, Kaplan, Kinateder, Loi, Mathews, Meike (Emeritus), Mercer, Slilaty, Svobodny, Tarpey, Tian, Turyn, Vance, Wang

Assistant Professors Cico (WSU—Lake Campus), Craighead, Q. Huang, Hawley (WSU—Lake Campus), Reed, Rife (WSU—Lake Campus), Slilaty, Tian

Lecturers Douglas, Lester, Otto

Instructors Brackenridge, Dahl, Diesslin, Tanner

The Department of Mathematics and Statistics offers several programs leading to a bachelor’s degree in mathematics, as well as minor programs in mathematics and in statistics. Master of Science programs are available as well.

Major Programs

The Bachelor of Science program offers five concentrations: pure mathematics, applied
The Bachelor of Arts program provides a broad background in mathematics with a liberal arts orientation.

The Department of Mathematics and Statistics participates in the dual major program, leading to either the B.A. or the B.S. degree. For example, dual majors are available with computer science, engineering, and physics.

Students must have at least a 2.5 GPA in MTH 229 and 230 (or equivalent courses) with a “C” or better in both courses to be accepted in the Department of Mathematics and Statistics.

Students must complete one of the major programs described below. Each program includes General Education requirements, departmental requirements, related course requirements, and general electives. The departmental component consists of required courses and electives in mathematics and statistics. Students must achieve at least a 2.0 GPA in the courses numbered 300 or higher used to satisfy this component. The general electives may be taken outside the Department of Mathematics and Statistics.

Each mathematics major is assigned an advisor from the department faculty. As early as possible in their college career, students should consult with their advisor on the important choice of a concentration. Likewise, students should confer with their advisor to discuss which courses to take and when to take them. Advising materials are available in the department office to help mathematics majors in these choices. However, there is no substitute for regular, in-person consultation with the faculty advisor. Moreover, the advisor must approve all courses intended to satisfy program requirements.

Mathematics and Statistics
Degree Requirements—
Mathematics/Pure Mathematics Concentration

Bachelor of Science Degree

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in Section II)
AREA V: Physics is recommended for the natural sciences requirement. If physics is chosen, then PHY 240/200, 242/202, 244/204 is a required substitution. (counted in Section III)
AREA VI: any of AFS 200, ATH 241, ATH 242, ED 210, EH 205, FIN 205, HST 220, HST 221, PHL 200, PSY 110

Departmental Requirements 68
MTH 229, 230, 231, 232, 233, 255, 257, 280, 316, 317 or 381, 355, 492
STT 360, 361
MTH 431 or 451
Two courses selected from MTH 381, 407, 410, 419, 456, 457, 458
One additional course selected from MTH 306, 381, 407, 410, 419, 431, 432, 451, 452, 456, 457, 458

Related Course Requirements 40–44
CS 240, 241, 242, 400
PHY 240/200, 242/202, 244/204 (if physics is selected for General Education natural science)
At least three from:
CEG 320, 433, 434; CS 405, 466, 470, 480;
MTH 476, 477
Degree Requirements—
Mathematics/Statistics Concentration

Bachelor of Science Degree

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229, 230 (counted in Section II)

AREA V: If physics is chosen for the natural sciences requirement, then PHY 240/200, 242/202, 244/204 is a required substitution. (counted in Section III)

AREA VI: any of AFS 200, ATH 241, ATH 242, ED 210, EH 205, FIN 205, HST 220, HST 221, PHIL 200, PSY 110

Departmental Requirements 71

Required Courses
MTH 229, 230, 231, 232, 233, 255, 280, 355
STT 360, 361, 461, 462, 466, 467, 492

Elective Courses
STT courses numbered above 367, except 430
CS 470
Electives selected to complete the departmental requirements must include at least two 400-level courses in the department, at least one of which must be a statistics course.

Recommended Electives
STT courses numbered above 367
MTH 433, 451, 452, 457
STT 461, 462

Degree Requirements—
Mathematics/Statistics Concentration

Bachelor of Science Degree

General Education (see page 55) 40

AREA I: MTH 229, 230 (counted in Section II)
AREA V: PHY 240/200, 242/202, 244/204 (counted in Section III)
AREA VI: any of AFS 200, ATH 241, ATH 242, ED 210, EH 205, FIN 205, HST 220, HST 221, PHIL 200, PSY 110

Departmental Requirements 72

Required Courses
At least four courses chosen from:
MTH 306, 316, 317, 332, 333
STT 360, 361
Two courses chosen from:
MTH 407, 419, 456, 458, 480, 481, 482
Two additional 400-level elective courses

Elective Courses
Those listed above plus:
MTH 433, 451, 452, 457
STT 461, 462

Related Course Requirements 42

PHY 240/200, 242/202, 244/204
Either PHY 371, 372 or ME 212, 213
CS 141 and either CS 142 or 240, or equivalent
At least 12 hours of advanced technical electives, which must be approved by the department.

Electives 29

Total 183

Degree Requirements—
Mathematics/Mathematics Education Concentration

Bachelor of Science Degree

(Integrated Mathematics)

Note: The Adolescent to Young Adult Mathematics Licensure Program is based on an undergraduate bachelor's degree in mathematics.

General Education (see page 55) 40

AREA I: MTH 229, 230 (counted in Section II)
AREA V: If physics is chosen, then PHY 240/200, 242/202, 244/204 is a required substitution. (counted in Section III)
AREA VI: ED 210

Departmental Requirements 68 70
STT 360, 361
Two courses selected from MTH 233, 306, 332, 433, 452, 458

Related Course Requirements 47–53
CS 141, 142 (or 240), 206
ED 301/221, 303/223
EDS 333
PHY 240/200, 242/202, 244/204 (if physics is selected for General Education natural science)
At least eight hours, appropriate preparation for grades 7–12 teaching, chosen with the approval of a mathematics education faculty advisor.
Recommended courses: MTH 343, 344, 345, 348, 446; STT 342

Electives 28–29

Total 183

Degree Requirements—Mathematics

Bachelor of Arts Degree

General Education (see page 55) 52
Required Substitutions:
AREA I: MTH 229, 230 (counted in Section II)
AREA VI: any of AFS 200, ATH 241, ATH 242, ED 210, EH 205, FIN 205, HST 220, HST 221, PHL 200, PSY 110

Departmental Requirements 64

Required Courses
STT 360, 361
MTH 432 or 452

Elective Courses
STT 401, 461, 462, 466, 467

Related Course Requirements 38
CS 141 and either CS 142 or CS 240, or equivalent Twenty-seven hours (at least eight hours in one department) in departments belonging to neither the College of Science and Mathematics nor the College of Engineering and Computer Science; one additional course within the College of Science and Mathematics or the College of Engineering and Computer Science, but outside the Department of Mathematics and Statistics. These courses are in addition to those needed to fulfill General Education requirements.

Electives 29
Foreign language study is recommended.

Total 183

Honors Program

Mathematics majors who have demonstrated superior ability in upper-level mathematics and statistics courses may pursue an honors program with the approval of the department. Further information is available from the departmental office.

Dual Major

Special programs of study are available for students interested in a dual major in mathematics and either computer science, engineering, or physics. Requirements can be obtained in the Department of Mathematics and Statistics office.

Dual major programs may be arranged for students with other interdisciplinary interests. Basic requirements follow and must be integrated with a corresponding program from another participating department. All programs require a minimum of 183 credit hours.

Dual Major Degree Requirements—Mathematics

Bachelor of Science Degree

General Education (see page 55) 40
Required Substitutions:
AREA I: MTH 229, 230 (counted in Section II)
AREA V: If physics is chosen, then PHY 240/200, 242/202, 244/204 is a required substitution. (counted in Section III)
AREA VI: any of AFS 200, ATH 241, ATH 242, ED 210, EH 205, FIN 205, HST 220, HST 221, PHL 200, PSY 110

Departmental Requirements 45

Required Courses
MTH 229, 230, 231, 232, 255, 355
At least two of the following:
MTH 431, 432, 451, 452, 457, 458, 480, 481, 482
STT 461, 462
Elective Courses
STT 360 or 363, 361, 461, 462, 466, 467

Related Course Requirements 20–24
CS 141 and either CS 142 or CS 240, or equivalent
PHY 240/200, 242/202, 244/204 (if physics is selected for General Education natural science)

Total 183

Bachelor of Arts Degree

General Education (see page 55) 52

Required Substitutions:
AREA I: MTH 229, 230 (counted in Section II)

AREA VI: any of AFS 200, ATH 241, ATH 242, ED 210, EH 205, FIN 205, HST 220, HST 221, PHL 200, PSY 110

Departmental Requirements 45

Required Courses
MTH 229, 230, 231, and either MTH 253 or 255

At least two of the following:
MTH 431, 432, 451, 452, 457, 458
STT 461, 462

Elective Courses
(maximum of two at the 200 level)
STT 360 or 363, 361, 461, 462, 466, 467

Related Course Requirements 8
CS 141 and either CS 142 or CS 240, or equivalent

Total 183

Minor Programs

Students majoring in another department may earn a minor in mathematics or a minor in statistics. Either minor can serve as an attractive credential for employment or improved preparation for graduate study. Each minor requires a minimum of 30 credit hours of approved courses; specific requirements follow.

Minor Requirements—Mathematics

Departmental Requirements 30

Required Courses
MTH 229, 230, 231, and either MTH 253 or 255

Elective Courses
STT 360 or 363, 361

Only one of MTH 253 and 255 and only one of STT 360 and 363 can count toward the minor. Courses cross-listed with the student’s major department cannot be included in the minor. A GPA of at least 2.0 must be attained in all minor courses. The minor must include at least three 300- or 400-level courses; a GPA of at least 2.0 must be earned in all minor courses at this level.

Total 30

Minor Requirements—Statistics

Departmental Requirements 30

Required Courses
MTH 229, 230, and MTH 253 or 255
STT 360, 361

Elective Courses
STT courses numbered above 367

Elective courses must be approved in advance by the Department of Mathematics and Statistics. A GPA of at least 2.0 must be attained in all minor courses, and a GPA of at least 2.0 must be earned in all minor courses at the 300 or 400 level.

Total 30

Physics

Professors Bambakis (chair), Skinner
Associate Professors Basista, Clark, Farlow, Foy
Assistant Professor Kozlowski, Petkie

The Department of Physics offers programs leading either to a Bachelor of Science degree or a Bachelor of Arts degree in physics. The Department of Physics and the Department of Electrical Systems Engineering jointly offer a program leading to the Bachelor of Science in Engineering degree in engineering physics; see the Electrical Systems Engineering section of the College of Engineering and Computer Science chapter for more information on this program. Students in secondary education may earn the Bachelor of Arts degree in physics and enter the Professional Year Experience program of the College of Education and Human Services for licensure in physics physical sciences, life sciences/physics, or earth sciences/physics.

Minimum requirements for the Bachelor of Science and Bachelor of Arts degrees in physics
include successfully completing the required courses, with a GPA of at least 2.0 for all physics courses, as well as completing university and college degree requirements.

In addition to the required courses, the department requires, for the Bachelor of Science degree, that every physics major take PHY 494 or 499. The physics major who plans to pursue graduate study also is strongly urged to take PHY 480, 481, 482 and additional mathematics courses.

Degree Requirements—Physics

Bachelor of Science Degree

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229 and 230 (counted in Section III)
AREA V: PHY 240/200, 242/202, 244/204 (counted in Section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221,
PHL 200, FIN 205, EH 205, PSY 110

Departmental Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
<td>16</td>
</tr>
<tr>
<td>PHY 260, 371, 372</td>
<td>10</td>
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<tr>
<td>PHY 315, 316, 322</td>
<td>10</td>
</tr>
<tr>
<td>PHY 420, 450, 451, 452, 460, 461, 462</td>
<td>25</td>
</tr>
<tr>
<td>PHY 494</td>
<td>6</td>
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</tbody>
</table>

Related Course Requirements

MTH 229, 230, 231, 232, 233, 332, 333 35
MTH 255, 355 6
Electives chosen from:
MTH 431, 432, 433, 480, 481, 482 8

Electives 15

Total 190

The department will use the results of the mathematics placement examination to determine the initial mathematics course best suited for the student. Students who do not have a strong science and mathematics background might choose to delay PHY 240, 242, 244. If these students are in the honors program, their schedule will need to be adjusted in the junior and senior years. They should consult their advisor as soon as possible to arrange a suitable program.

The Department of Physics encourages students interested in interdisciplinary study to pursue a double major in physics and a related discipline. A departmental advisor will help students arrange a suitable program of study. In addition, there are three formal physics degree option programs that follow.

Degree Requirements—Physics/Geology Option

Bachelor of Science Degree

The Department of Physics, in cooperation with the Department of Geological Sciences, offers a program leading to a Bachelor of Science in Physics with a geophysics option. This option is designed for students who plan a career in physics in a geology-related setting or who plan to pursue graduate study in geophysics.

Students following the physics program with the geophysics option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229 and 230 (counted in Section III)
AREA V: PHY 240/200, 242/202, 244/204 (counted in Section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
<td>16</td>
</tr>
<tr>
<td>PHY 260, 371, 372</td>
<td>10</td>
</tr>
<tr>
<td>PHY 315, 316, 322</td>
<td>10</td>
</tr>
<tr>
<td>PHY 420, 450, 451, 452, 460, 461, 462</td>
<td>25</td>
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<tr>
<td>PHY 494</td>
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Related Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
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<tr>
<td>MTH 229, 230, 231, 232, 233, 253</td>
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<tr>
<td>MTH 332, 333</td>
<td>6</td>
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<tr>
<td>CHM 121, 122, 123</td>
<td>15</td>
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<tr>
<td>EGR 153 or equivalent</td>
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Geology Option Requirements

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>GL 251, 253</td>
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<tr>
<td>GL 252, 254</td>
<td>3</td>
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<tr>
<td>PHY 422, 423, 424</td>
<td>13</td>
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</table>

Electives chosen from: GL 255, 311, 333, 420, 450, 463

Total 194

In addition to these required courses, the department recommends that students pursuing the geophysics option also take GL 434 and participate in the geophysics seminars.

Degree Requirements—Physics/Computing Option

Bachelor of Science Degree

The Department of Physics offers a program leading to a Bachelor of Science degree in physics with a computing option. This option is designed for students who plan a career in any of the many areas of theoretical or experimental physics that involve extensive use of digital computers.

Students following the physics program with the computing option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

General Education (see page 55) 40

Required Substitutions:

| AREA I: MTH 229 and 230 (counted in Section III) |
| AREA V: PHY 240/200, 242/202, 244/204 (counted in Section II) |

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
<td>16</td>
</tr>
<tr>
<td>PHY 260, 371, 372</td>
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Related Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>MTH 229, 230, 231, 232, 233, 253</td>
<td>28</td>
</tr>
<tr>
<td>MTH 332, 333</td>
<td>6</td>
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<tr>
<td>CHM 121, 122, 123</td>
<td>15</td>
</tr>
<tr>
<td>EGR 153 or equivalent</td>
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</tbody>
</table>

Electives 3

Computing Option Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CS 240, 241, 242</td>
<td>12</td>
</tr>
<tr>
<td>MTH 257</td>
<td>3</td>
</tr>
<tr>
<td>CS 400</td>
<td>4</td>
</tr>
<tr>
<td>CS 316, 317</td>
<td>8</td>
</tr>
</tbody>
</table>

Total 190

Students who wish to learn about microprocessors may wish to take further courses in computer engineering, such as CEG 260, 320, and 360. For these students, CEG 430 and 431 may be taken in place of CS 316 and 317.

Degree Requirements—Physics/Biology Option

Bachelor of Science Degree

The Department of Physics, in cooperation with the Department of Biological Sciences, offers a program leading to a Bachelor of Science degree in physics with a biology option. This option is designed for students who plan a physics career in a biology-related setting or who want to pursue graduate study in biophysics or medical physics.

Students following the physics program with the biology option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

General Education (see page 55) 40

Required Substitutions: AREA I: MTH 229 and 230 (counted in Section III) AREA V: PHY 240/200, 242/202, 244/204 (counted in Section II)
Physics Education

Students who wish to teach physics in Ohio public high schools can pursue the B.A. degree in physics. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then need to complete the Professional Educators Program (PEP) through Wright State's College of Education and Human Services. Graduates of the B.A. in physics and the Professional Educators Program are then eligible to seek licensure from the Ohio Department of Education in Physical/Physical Sciences, Licensure in Life Sciences/Physics, or Earth Sciences/Physics. can also be sought upon completion of programs based on the B.A. in Physics and PEP.

Degree Requirements—Physical Sciences Education

Bachelor of Arts Degree (Physics)

The Adolescence to Young Adult Physics Licensure Program is based on an undergraduate Bachelor of Arts degree in physics.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229 and 230 (counted in Section III)
AREA V: PHY 240/200, 242/202, 244/204 (counted in Section II)

AREA VI:
Choose one
AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EH 205, PSY 110

Departmental Core Requirements

PHY 240/200, 242/202, 244/204 16
PHY 260, 371, 372 10
PHY 315, 316, 322, 372, 420, 451 13

Related Course Requirements

MTH 229, 230, 231, 232, 233 25
CHM 121, 122, 123 15
EGR 153 or equivalent 4

Electives

Electives outside the College of Science & Mathematics and College of Engineering & Computer Science 27

Total 185.5

Bachelor of Arts Degree (Physical Sciences)

The Adolescence to Young Adult Physical Sciences Licensure Program is based on an undergraduate Bachelor of Arts degree in physics.

General Education (see page 55) 40

Required Substitutions:
AREA I: MTH 229 and 230 (counted in Section III)
AREA V: PHY 240/200, 242/202, 244/204 (counted in Section II)
AREA VI:  
Choose one  
AFS 200, ATH 241, ATH 242, HST 220, HST 221,  
PHL 200, FIN 205, EH 205, PSY 110  

Departmental Core Requirements  

PHY 240/200, 242/202, 244/204  
PHY 107/117, 260, 315, 316, 371, 420, 446, 447, 450  
Physics elective: PHY 322 or 372 or 451  

Related Course Requirements  

BIO 111, 112  
CHM 121, 122, 123  
CHM 211/215, 212/216, 213/217, 312/314, 451  
GL 251/252, 253/254, 255/256  
Math 253 or 255  
MTH 229, 230, 231, 232, 233  

Electives  

Electives outside the College of Science &  
Mathematics and College of Engineering &  
Computer Science (must include ED 221, 223, 301, 303, EDS 333)  

Total  207.5  

Degree Requirements—  
Earth Sciences/Physics Education  

Bachelor of Arts Degree  

The Adolescence to Young Adult Earth  
Sciences/Physics Licensure Program is based on an  
undergraduate Bachelor of Arts degree in physics.  

General Education (see page 55)  

Required Substitutions:  
AREA I: MTH 229 and 230 (counted in Section III)  
AREA V: PHY 240/200, 242/202, 244/204 (counted in  
Section II)  

AREA VI: Choose oneAFS 200, ATH 241, ATH 242,  
HST 220, HST 221, PHL 200, FIN 205, EH 205,  
PSY 110  

Departmental Core Requirements  

PHY 240/200, 242/202, 244/204  
PHY 107/117, 260, 315, 316, 371, 420, 446, 447, 450  
Physics elective: PHY 322 or 372 or 451  

Related Course Requirements  

BIO 111, 112, 115, 210, 211, 212, 252, 278, 279, 426, 492  
CHM 121, 122, 123  
GL 251/252  
MTH 229, 230, 231, 232, 233  
MTH 253 or 255  

Electives  

Electives outside the College of Science &  
Mathematics and College of Engineering &  
Computer Science (must include ED 221, 223, 301, 303, EDS 333)  

Total  207.5  

Physics Honors Program  

The Department of Physics offers an Honors  
Program designed to provide superior students  
with a program that offers greater creativity  
and intellectual challenge. Students who wish  
to participate in this program must apply to the
department during the spring quarter before they plan to enter the Honors Program. Interested students should have at least a 3.0 GPA overall and at least a 3.0 in physics courses numbered 300 and above. To graduate with honors in physics, students are required to complete PHY 480, 481, 482, and nine hours of honors research (499) with grades of “B” or better.

**Dual Major Program in Physics and Mathematics**

The dual major in physics and mathematics is designed for students majoring in physics who wish to gain a strong background in mathematics. This can be particularly valuable for those planning graduate study.

Since the physics major program for the Bachelor of Science degree requires 34 hours of mathematics, and the mathematics component of the major requires 45 hours, 11 additional hours of mathematics need to be taken. To earn a dual major, students must take the following mathematics courses:

1. MTH 229, 230, 231, 232, 233, 332, 333 31
2. MTH 255 and 355 (Matrix Algebra) must be taken in place of MTH 253. If MTH 253 has already been taken, the student must still take MTH 355. 6
3. Eight hours of electives must be selected from restricted lists of courses. For a student in this program, the natural choice would be to select three courses from MTH 431, 432, 433, 480, 481, 482. 8

**Total** 45

In addition, students must:

4. take CS 141 and CS 142 or EGR 153 or equivalent (total eight hours); and
5. complete the other nonmathematical requirements of the physics major.

**Minor Programs**

Students majoring in another department may earn a minor in physics. A minor can help prepare students for an interdisciplinary graduate program or serve as a supportive credential for employment. The minor requires a minimum of 35 credit hours as specified in the following:

**Minor Requirements—Physics**

**Departmental Requirements** 35

**Required Courses**

- PHY 240/200, 242/202, 244/204 16
- (or PHY 111/101, 112/102, 113/103, 240, 242) 10
- PHY 260, 315, 371

**Elective Courses**

(Nine hours chosen from the following courses as approved in advance by the Department of Physics)

PHY 316, 322, 372, 400, 401, 420, 432, 450, 451, 452, 460, 461, 462, 494

(maximum three hours)

**Physiology/ Biophysics**

**Professors** Dean, Lauf (chair), Putnam

**Associate Professors** Corbett, Goldfinger, Gomez-Cambronero, Halm, Henderson, Nussbaum

**Assistant Professors** Brown, Mechlin

The Department of Physiology and Biophysics provides a curriculum for students who plan to enter into medicine, nursing, or other health-related professions and participates in the Biomedical Sciences Ph.D. program. Although the department does not offer an undergraduate degree in physiology and biophysics, students may take physiology and biophysics as part of the Bachelor of Science degree in biological sciences or other science disciplines.

**Psychology**

**Professors** Bennett, Flach, Hennessy, H. Klein, Kurdek, Nagy, Shebilske (chair)

**Associate Professors** Campbell, Colle, Edwards, Gilkey, Gill (WSU-Lake Campus), Kruger, Shalin, Steele-Johnson, Tsang, Watamaniuk, Weber

**Assistant Professors** Claflin, Gooden, Lahuis, Miller, Schneider

The Department of Psychology offers programs leading to the Bachelor of Science and the Bachelor of Arts degrees. Both degree programs are designed to give students a broad introduction to contemporary psychology. The Bachelor of Arts curriculum offers the greatest flexibility in electives within and outside of psychology. The Bachelor of Science curriculum is recommended for students planning careers in academic, research, or professional fields. Both degree programs offer enough flexibility so students can supplement their individual program with additional courses both inside and outside psychology; allowing students to tailor their degree to meet individual goals. Students considering graduate school should consult with their departmental advisors early in their academic career.
Students must have earned 30 hours and have a cumulative GPA of 2.25, and two PSY classes with grades of "C" or better to transfer into the Department of Psychology. Once students have been accepted by the department, they are invited to attend a department orientation. This orientation provides students with critical information about degree completion, graduate school, and job opportunities among other information. After attending orientation, students should work with their assigned advisor. Because of the breadth of psychology, a variety of different educational options are available. Students can select courses that best fit their area of interest. Advising materials for students interested in cognitive science, human factors, human services or clinical psychology, and industrial/organizational psychology can be obtained from the department. The department offers a concentration in human factors. Students must earn at least 65 credit hours in departmental requirement courses for a Bachelor of Arts, and at least 73 credit hours for a Bachelor of Science degree.

**Degree Requirements—Psychology/Academic Concentration**

Degree requirements for all the psychology programs are subject to change. Check with the department office for the current degree requirements.

**Bachelor of Arts Degree**

The B.A. curriculum is designed to provide you with opportunities to achieve four outcomes.

*Outcome 1:*  
You will be familiar with current theory and research in diverse areas of psychology.

*Outcome 2:*  
You will have fundamental research design and mathematical/statistical skills needed to appreciate psychological science.

*Outcome 3:*  
You will have advanced knowledge in self-selected areas of psychology.

*Outcome 4:*  
You will communicate effectively in both written and oral forms.

Each of the requirements listed below relates specifically to one of these outcomes.

**General Education (see page 55)**

<table>
<thead>
<tr>
<th>Required Substitutions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area I: STT 264, 265 (counted in Section III)</td>
</tr>
<tr>
<td>Area III</td>
</tr>
<tr>
<td>PSY 105 required selection</td>
</tr>
<tr>
<td>Area VI</td>
</tr>
<tr>
<td>PSY 110</td>
</tr>
</tbody>
</table>

**Psychology Core Requirements**

<table>
<thead>
<tr>
<th>4 of the following (at least 2 from each group)</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 311, 331, 341, 351</td>
<td></td>
</tr>
<tr>
<td>PSY 321, 361, 371, 391</td>
<td></td>
</tr>
<tr>
<td>PSY 300</td>
<td>4</td>
</tr>
<tr>
<td>4 400-level PSY courses</td>
<td>16</td>
</tr>
<tr>
<td>(excluding PSY 432, 489, 490, 498, 499)</td>
<td></td>
</tr>
<tr>
<td>Psychology electives</td>
<td>20</td>
</tr>
</tbody>
</table>

**Required Supporting Courses**

<table>
<thead>
<tr>
<th>MTH 126 or 127, and STT 264, 265</th>
<th>11–13</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Requirement</td>
<td>27</td>
</tr>
</tbody>
</table>

27 credit hours outside the College of Science and Mathematics and the College of Engineering and Computer Science

**General Electives**

| 37–39 |

| Total | 183 |

**Degree Requirements—Psychology**

**Bachelor of Science Degree**

The B.S. curriculum is designed to provide you with opportunities to achieve five outcomes. Relative to the B.A. curriculum, the B.S. curriculum has a stronger focus on research methodology.

*Outcome 1:*  
You will be familiar with current theory and research in diverse areas of psychology.

*Outcome 2:*  
You will have advance research design, mathematical/statistical, and computing skills needed to appreciate psychological science.

*Outcome 3:*  
You will have advanced knowledge in self-selected areas of psychology.

*Outcome 4:*  
You will conduct research in self-selected areas of interest.

*Outcome 5:*  
You will communicate effectively in both written and oral forms.

Each of the requirements listed below relates specifically to one of these outcomes.

**General Education (see page 55)**

<table>
<thead>
<tr>
<th>Required Substitutions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA I: STT 264, 265 (counted in Section III)</td>
</tr>
<tr>
<td>AREA III:</td>
</tr>
<tr>
<td>PSY 105 required selection</td>
</tr>
<tr>
<td>AREA VI:</td>
</tr>
<tr>
<td>PSY 110</td>
</tr>
</tbody>
</table>
Psychology Core Requirements

5 of the following (at least 2 from each group) 20
PSY 311, 331, 341, 351
PSY 321, 361, 371, 391
PSY 300, 400 9
4 400-level PSY courses (excluding PSY 432, 489, 490, 498, 499) 16
2 courses from the following 8
PSY 323, 333, 343, 353, 363, 373, 393
Psychology electives 12

Required Supporting Courses

MTH 128 or 129, and STT 264, 265 11–13
CS 141, 142 or 208, 209 8

General Electives 47–49

Total 183

Human Factors Psychology Concentration

Human factors is a field that was pioneered by psychologists, and the overwhelming majority of people in the field are psychologists. Graduates of the human factors concentration typically find employment in industry or government. They are also well prepared for graduate study in engineering psychology, experimental psychology, or human factors. Please contact the department office for details about this concentration.

Psychology Honors Program

Students interested in being admitted to the psychology honors program should apply before the beginning of their senior year. Students usually apply at the end of the sophomore year. After acceptance, students enroll in one departmental honors seminar each academic year. Part-time students must complete one honors seminar prior to graduation. All students must complete an honors thesis, for which academic credit is granted.

Minor Program

The psychology minor is available for students who would like to gain a better understanding of psychological processes. Students in a wide variety of majors may benefit by supplementing their knowledge and skill with a stronger background in psychology. The minor is flexible and allows students to select subsets of courses that are appropriate for particular majors. Students in biology, business, communication, computer science, education, nursing, and sociology may find that the psychology minor enhances their educational goals. The minor may be fulfilled by completing the following requirements.

Minor Requirements—Psychology

Departmental Core and Elective Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 105, 110</td>
<td>8</td>
</tr>
<tr>
<td>Three of the following:</td>
<td></td>
</tr>
<tr>
<td>PSY 311, 321, 331, 341, 351, 361, 371, 391</td>
<td>12</td>
</tr>
<tr>
<td>Electives in PSY (200–400 level)</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

A GPA of at least 2.0 must be attained in all minor courses.

Science and Mathematics Education

Teacher Education—Content Preparation

The following science and mathematics baccalaureate programs are offered as preprofessional programs in preparation for the graduate level Adolescence to Young Adult licensure programs:

- Chemistry (p. 178)
- Earth and Space Sciences (p. 182)
- Earth Sciences/Chemistry (p. 183)
- Earth Sciences/Physics (p. 192)
- Integrated Mathematics (p. 186)
- Integrated Sciences (p. 184)
- Life Sciences (p. 175–176)
- Life Sciences/Chemistry (p. 175)
- Life Sciences/Earth Sciences (p. 183)
- Life Sciences/Physics (p. 192)
- Physical Sciences (p. 191)
- Physics (p. 191)
LAKE CAMPUS
The Lake Campus

The Wright State University—Lake Campus is located on the north shore of Grand Lake St. Marys between Celina and St. Marys. The Lake Campus is easily accessible to the residents of Auglaize, Mercer, Van Wert, Shelby, Allen, and Darke counties and provides a variety of courses, certificate programs, as well as associate, bachelor’s and master’s degrees. The Lake Campus also offers a number of upper division and graduate courses; degrees that may be earned completely at the Lake Campus include the Bachelor of Education in Early Childhood Education, the Bachelor of Science in Organizational Leadership, the Bachelor of Science in Nursing completion program; Masters degrees in Education, Educational Leadership, and Business Administration; and a number of Associate of Arts, Associate of Science, Associate of Applied Business, Associate of Applied Science, and Associate of Technical Study degrees. The Lake Campus also offers a variety of preprofessional and certificate programs, and participates in the Ohio Transfer Module.

The Wright State University—Lake Campus was created in 1962 and became a regional branch campus of Wright State University in June 1969. In 1972, the college moved to its present location on 173 acres on the north shore of Grand Lake St. Marys between Celina and St. Marys.

The administrative wing of Dwyer Hall houses the Admissions/Registrar’s Office; Financial Aid/ Bursar’s Office; counseling, academic advising, testing, and career placement offices; and the offices of the dean and associate dean. A receptionist is available during business hours to answer questions, set up appointments with an academic advisor, and give students descriptive material.

Quarterly class schedules for classes held at the Lake Campus are available by contacting the Lake Campus, 1-800-237-1477 or (419) 586-0300.

Admission

The process for becoming a new student at Wright State University—Lake Campus involves several important steps. This section describes and explains these steps so that students can understand and follow the process and make informed decisions about services that might help in making decisions.

Steps for Students New to Wright State University—Lake Campus:
1. Apply and complete admission application
2. Inquire about financial aid, if needed
3. Take placement tests
4. Meet with an advisor
5. Register for classes
6. Pay quarterly fees
7. Attend orientation program
8. Seek academic assistance

Ohio students who have graduated from a state chartered high school and completed the recommended college preparatory curriculum are eligible to apply for unconditional admission. Out-of-state students, however, must present evidence of above average ability to do college work. Students who do not meet the above criteria will be reviewed on an individual basis. Based upon the review of a completed admission file, the applicant may be offered unconditional or conditional admission to the university. Some applicants who do not meet the requirements may have their admission deferred pending satisfactory completion of developmental or remedial courses.

Admission to the university does not automatically guarantee admission to a major program of study; major programs of study have specific entrance requirements that must be met.

High School Preparation

Wright State University has adopted a college preparatory curriculum policy. The university requires applicants to have a high school record that meets the recommendations of the Advisory Commission on Articulation between Secondary Education and Ohio Colleges. Students who do not meet the high school course requirements may be admitted to the university with conditions and will be required to remove deficiencies before they can graduate from Wright State University.

The following table summarizes the college preparatory course requirements and indicates how deficiencies may be removed.
### Subject Area Requirement

- **English** – four units
  - Pass ENG 101*

- **Mathematics**—three units (including Algebra I and II)
  - Pass MTH 127*

- **Social Sciences** – three units (including two units in history)
  - Complete the general education requirement in Western Civilization. A one-term course removes up to one unit of deficiency.

- **Science** – three units
  - Complete the general education requirement in natural sciences. A one-term lecture/lab course removes up to one unit of deficiency.

- **Foreign Language** — two units (in the same foreign or classical language through level II)
  - Pass courses through the 103 level or demonstrate proficiency by examination.

- **Arts** – one unit
  - Complete the general education requirement in Fine and Performing Arts.

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*Initial enrollment in English and mathematics courses will be determined by placement testing. Algebra I and Foreign Language I may be taken in eighth grade.

### Degree-Seeking Students

#### Beginning Freshman

Students beginning college with the intention of earning a degree must submit the following to be considered for admission:

1. Undergraduate application
2. $30 nonrefundable application fee
3. High school transcript (partial one at time of application, final one at end of senior year) or official GED scores
4. College Preparatory Curriculum Completion Form
5. Official ACT or SAT scores

#### Transfer Students

Students who have registered for 12 or more quarter hours at another college are considered transfer students. To be considered for admission as a transfer student, students must submit the following:

1. Undergraduate application
2. $30 nonrefundable application fee
3. Official transcript from each college previously attended

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4. **High school transcript (required of the following students)**
   - High school graduates of 1986 or before who are transferring with less than 12 quarter (nine semester) hours
   - High school graduates of 1987 or after who are transferring with less than 45 quarter (30 semester) hours

5. **College Preparatory Curriculum Completion Form (required of the following students)**
   - High school graduates of 1996 or after who are transferring with less than 45 quarter (30 semester) hours

All transfer students with at least a “C” average are eligible for admission to the university; admission to most colleges and schools requires a higher GPA. Students who have been out of college for more than five years with less than a 2.0 GPA do not have to petition to transfer to Wright State. However, those students who have attended college within the past five years with less than a 2.0 GPA must petition for admission. The petition forms are available in the Student Services Office and must be submitted along with the other necessary applications materials outlined above. Students who have been dismissed from another institution will not be considered for admission to Wright State for one calendar year.

Students who have been granted “fresh start” or “academic bankruptcy” at another institution must have earned a minimum of 12 hours at the same institution before Wright State will recognize the recalculated GPA for admission purposes.

### Transfer Credit Regulations

1. Students’ credits must have been earned at an institution that is regionally accredited, or an institution of equivalent quality (as determined by Wright State).
2. Students must have earned a grade of “C” or higher (according to the definition of grades currently used at Wright State). Grades of “pass” and “credit” are considered for transfer credit.
3. The credits must have been acceptable for satisfying the graduation requirements at the source institution.
4. Any credit earned through correspondence study or as a part of an off-campus study program are subject to the same regulations as other transfer credit.
5. If the credits were earned more than 10 years before a student’s admission to Wright State, the student’s advisor will determine if the credits are still applicable to the degree.
6. Students who have completed three-fourths or more of the Wright State quarterly credit hour requirement for a course or sequence may receive credit for that course or sequence. For example, two three-credit hour courses in English composition may be considered the equivalent of ENG 101 and 102 (8 credit hours).

7. Lake Campus academic advisors will determine how students' transfer credits are to be used toward the requirements for their major. If there are exceptions to the transfer credit rules, the dean of the major college or school involved will make the decision.

8. The Office of Undergraduate Admissions will notify students of their admission to Adult and Transfer Services. University College's Academic Advising Center, or the appropriate college.

9. General education requirements for most transfer students will be determined by a course-by-course evaluation.

10. The university will accept a minimum of 90 credit hours for an associate degree from a regionally accredited junior or community college (see Transfer Credit Regulation number 1). Also, credit is usually given for all academic college credit hours above 90 for which a grade of "C" or better has been earned.

11. Students who have already received a baccalaureate degree from an accredited institution (see Transfer Credit Regulation number 1) and wish to pursue a second baccalaureate degree will automatically receive 138 quarter credit hours. They will be ranked as seniors. An advisor will determine how many credits these students will have to complete to receive their second degree.

12. All religion courses taught by a religion department in any state college or university will be considered for transfer credit. These courses are subject to other applicable Transfer Credit Regulations. Religion courses taught by all other colleges must be approved by the religion department before transfer credit is granted.

13. Transfer students with a minimum GPA of 3.4 or higher may be eligible to graduate with Latin honors (summa cum laude, magna cum laude, or cum laude). For the purpose of determining honors, the student's GPA at Wright State will be recalculated to include all transfer grades. This recalculation of the GPA may result in the loss of honors status at graduation.

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**Returning Students**

Students who have not attended Wright State for four or more consecutive quarters must apply for readmission through the Office of Undergraduate Admissions. There is no additional application fee, and official transcripts are required only from the schools students have attended since they left.

Wright State Students who have been dismissed may apply for readmission by petition after they have remained out of school for four quarters.

Students who have not attended Wright State for five years (20 consecutive quarters) may wish to take advantage of the Fresh Start Rule. This rule may allow students to have their earlier GPA recalculated. Interested students should contact the Office of Undergraduate Admissions for more information.

**Other Admission and Enrollment Categories**

**Nondegree Undergraduate Students**

Students who wish to take courses at Wright State, but who do not intend to work toward a degree at this time can register as nondegree students. Students may take as many courses as they like, as long as they meet the requirements for each course. To be eligible to register as nondegree students, they must have graduated from an accredited high school or passed a high school equivalency test (GED).

To apply, students need only fill out a simple application/registration form and pay a $10 one-time registration fee. Later, if they decide to enter a degree program, they can file their credentials and pay an additional $20 application fee. Non-degree work normally can be applied toward a degree program.

Nondegree students may receive academic advising and may participate in any of the services offered at the Lake Campus, including tutoring and developmental education courses.

**Teacher Certification/Licensure**

Graduates who wish to become licensed teachers must apply for admission, file all the necessary credentials, pay the application fee, and complete the college admissions process as described in the College of Education and Human Services section. Those interested in certification/licensure should also see the Special Program Note.

Undergraduate students and students who have degrees from other colleges within the university may also obtain teaching licenses upon completion of all the requirements of the College of Education and Human Services.
High School Students
High school students may, in some instances, take courses at Wright State while enrolled in high school. For specific information about the program, contact the Lake Campus Registrar’s Office.

Veterans’ Benefits
Active duty personnel and Vietnam-era veterans are eligible for the new G.I. Bill if they served without a break in service after October 19, 1984, through June 30, 1985. Only veterans separating after June 30, 1988, are eligible. Eligibility terminates 10 years from date of separation from active duty.

The Veterans’ Educational Assistance Program (VEAP) can be used by a veteran who entered active military service after December 31, 1976, served for a continuous period of 181 days or more, and contributed to VEAP while on active duty.

The All-Volunteer Force Educational Assistance Program (New G.I. Bill) can be used by a veteran who entered on active duty at any time after June 30, 1985, and paid into the program.

Applications are available from the Student Services office at the Lake Campus or from any Department of Veteran Affairs office. Educational opportunities are available for children and surviving spouses of veterans whose deaths or permanent total disabilities were service-connected. Spouses and children of servicemen and women declared missing in action or prisoners of war are also eligible.

Graduation Requirements for Associate’s Degree
To graduate with an associate’s degree from Wright State University–Lake Campus, all students must fulfill the following requirements:

- Credit Hours—A minimum of 90 credit hours must be earned in approved courses for an associate’s degree.
- Grade Point Average—A minimum cumulative grade point average of 2.0 must be earned for courses taken at Wright State University.
- General Education—The university’s general education requirements must be completed.
- Residence Regulations—A minimum of 20 credit hours in the student’s major concentration must be earned at Wright State University for completion of an associate’s degree.

Students must also fulfill all program requirements set by departments, colleges, and schools, some of which exceed these university minimums; see individual program requirements for details.

Responsibility for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation rests with the student.

Students who are continuously enrolled or eligible to enroll continuously (students are eligible to enroll continuously if they are enrolled during any part of the calendar year) may elect to meet either the university requirements that were in effect when they entered Wright State or the university requirements that came into effect while they were continuously enrolled. Students who were not enrolled continuously must meet the university requirements in effect when they are readmitted to the university.

Students must meet the college or school requirements in effect when they are admitted to the college or school, and they must meet the program requirements in effect when they are admitted to a specific program or major. Students who are not enrolled continuously may be required to meet the college, school, or program requirements in effect when they are readmitted to a program. In addition, students who have not completed their program in seven years may have their college, school, or program requirements revised.

Bachelor’s Degree Requirements and WAC requirements are included in the main campus section of the catalog.

Registration
After new students have met with their advisor, they are ready to register for classes. Registration information and dates are announced in the quarterly schedule of classes and online at http://www.wright.edu.admissions.registration/

Once students have advisor approval (if required), they may register through the Raider Express Telephone Registration system using a touch-tone phone or in person at the window of the Office of the Registrar. Continuing students should check the quarterly class schedule for the specific date they may begin to register.

Currently registered students and students who are not currently registered, but who have been registered anytime during the previous year, will be mailed a registration information form. This form will be mailed to the local address on file in the student database.

Registration for Writing Intensive (WI) Courses
Students must complete eight writing intensive (WI) courses as part of the Writing Across the Curriculum requirement. Each WI course is clearly identified in the quarterly class schedule. Students registering for a WI course are automatically registered for the writing component of the course, an “0” credit hour lab. Students may not drop a WI course and lab separately.
Paying Fees

A current fee schedule can be found on-line at [http://www.wright.edu/admissions/bursar](http://www.wright.edu/admissions/bursar). The procedures for paying fees depend on which registration period is used. Students will find fee payment deadlines for each registration period in the university calendar, published in the quarterly schedule of classes. Students who register early but do not submit their payment by the required due date will have their registration canceled in order to make classroom space available to other students.

Students who register during open registration must pay all fees and charges by the published fee payment deadline. Their registration will not be canceled. Late fees may be assessed for late registration or late payment. See the quarterly class schedule for refund and drop/withdrawal dates.

Advising

Academic advisors help students select courses, schedule classes, become oriented to the university, and develop academic success strategies. During advising, students are given information about appropriate academic services, such as tutoring or Developmental Education courses.

Financial Aid

The Office of Financial Aid makes every effort to help students who would be unable to attend school without receiving some form of financial aid. No student interested in attending Wright State University–Lake Campus should fail to apply because of financial limitations. If necessary, students should meet with a financial aid staff member to discuss any questions or concerns they may have regarding a financial aid package.

Financial aid, with the exception of four-year scholarships, is granted on a three-quarter basis. To also help determine summer and/or academic year financial aid requires completion of the registration questions on the Free Application for Federal Student Aid (FAFSA). The registration questions will require you to indicate the quarter(s) you plan to attend, and if you will register for full, three-fourths, or part-time. All students must apply for financial aid on a yearly basis. All students who are interested in applying for need-based financial aid are required to submit the Free Application for Federal Student Aid (FAFSA). The FAFSA form can also be filed electronically using FAFSA on the Web.

Services

Specific services are available at the Lake Campus in the following areas.

Admission, Registration, and Fees

The staff at the Lake Campus can help students complete the application for admission. Lake Campus staff can also accept registrations for any Wright State University class and process the collection of student fees.

Financial Aid

Any individual interested in obtaining a college education should not fail to apply because of financial limitations. There are many forms of financial assistance available to deserving students whose personal and family financial resources are insufficient to meet their educational expenses. For complete information, be sure to contact the financial aid officer at the Lake Campus. Counselors are available to discuss your situation and the various possibilities for financial assistance.

Student Employment

A limited amount of student employment is available to students who wish to work to help finance their education or just to earn extra spending money. Students can obtain information about job opportunities through the Office of Student Services. For on-campus jobs, students may be employed through the Federal Work-Study Program or the regular employment program.

Scholarships

The Lake Campus provides numerous scholarships for both high school seniors and continuing students. The scholarships are awarded on both academic and need-based criteria. Students apply by filling out a Lake Campus Scholarship application. Awards range from a $200 book scholarship to full tuition. Students are also eligible for some main campus scholarships that can be used at the Lake Campus. Inquire at the Lake Campus Financial Aid Office.

Counseling and Testing

Professional counseling is provided free of charge to Lake Campus students. This service includes evaluation of personal interests, abilities, needs, and values; placement and aptitude testing; help in selecting careers; services are by appointment. Although counseling and testing are available to everyone, freshman students are especially urged to use these benefits so they can begin planning early for their career development.
Academic Advising

Academic advising is provided to all Lake Campus students. Through this service, students can get advice in planning the schedule of courses they will take during their college career. Students must consider General Education requirements, classes in specialized fields, courses that must be taken in sequence, and electives. Advisors make course recommendations, assist students in planning and scheduling, and provide individualized academic information to help ensure that students meet degree requirements and gain appropriate career skills. Incoming freshmen students are required to meet with an academic advisor.

Tutoring

The Lake Campus makes every effort to help students who experience academic difficulty. In addition to counseling to improve study skills, tutoring in English, reading, mathematics, and most other subject areas is provided.

Academic and Instructional Services

The Office of Academic and Instructional Services (AIS) provides opportunities for both students and faculty to ensure their success in their academic endeavors.

For students, at all levels of academic proficiency, such opportunities include tutoring, study sessions, and independent/individualized instruction in conjunction with another department and/or through Academic and Instructional Services itself. These services are available to any WSU-LC student. Computer software packages and audiovisual materials facilitate basic skill improvement as well as accelerated progress in certain subjects or skills. In addition, AIS personnel assist disabled students in the realization of their potential by providing supplemental services on their behalf. Such services may include extended testing arrangements, test proctoring, counseling, tutoring, and taped textbooks. Finally, AIS outreach programs for special populations address unique needs of students, e.g., Adults Supporting Adults Project (ASAP).

For both full-time and adjunct faculty, Academic and Instructional Services focuses on instructional practices, academic policies and procedures, as well as providing opportunities to become acquainted with the teaching experience of other colleagues at Wright State University–Lake Campus. An ongoing scholarly lecture series benefits both faculty and students academically and provides opportunities for educational exchanges that would otherwise be difficult to provide in the rural locale in which the Lake Campus is located. Through such educational activities, Academic and Instructional Services will enhance the faculty’s exposure to different ways of teaching the skills needed by students in today’s world.

Job Placement

The Lake Campus assists graduates in locating suitable employment. Employers frequently contact the Lake Campus for their hiring needs, and a job board is maintained.

Library

A vital part of the Lake Campus is the library. The Lake Campus library is a full-service facility offering full text versions of over 2800 journals, 100 databases, and access to 30 million books via OhioLINK. The library has over 30,000 volumes on hand and can obtain interlibrary loans from over 4,000 libraries in the United States.

Veterans’ Services

The staff in the Office of the Registrar at the Lake Campus will help qualifying individuals prepare the necessary forms, and will follow through with the regional Veterans Administration office to ensure that students receive their VA benefits.

Bookstore

The Cottage Bookstore is operated by Wright State for the convenience of Lake Campus students, providing textbooks, academic supplies, WSU apparel, and gifts.

Child Care

A child care partnership has been formed with the Auglaize/Mercer YMCA, providing convenient, on-campus child care services to students who are enrolled in one or more classes at the Lake Campus.

YMCA Membership

While enrolled at the Lake Campus, each student has free membership to the Auglaize/Mercer Counties Family YMCA.

Student Organizations and Activities

The student body plays an active role in organizing activities and participating in campus organizations. Any Lake Campus student is eligible to take an active part in the planning of campus activities. The following are some of the organizations and activities that the student body helps support:
The College Community Arts Council is supported by the Lake Campus, local corporate gifts, grants from the state of Ohio, and ticket sales. Performances include not only drama and music of all types, but also ballet and residencies specifically for area public schools. Lake Campus students can attend all Arts Council functions at no cost.

Athletic Programs include men’s and women’s basketball and golf.

The Business Professionals of America (BPA) is the national organization for students preparing for work in the business world. Business Professionals of America is for students at Wright State University–Lake Campus who are interested in developing personal, leadership, and office skills. Lake Campus students have won numerous awards at national BPA competitions.

Lake Campus Future Educators was organized to provide services and support to all students interested in a career in education. Regular meetings provide students with opportunities for a variety of preprofessional activities, including portfolio assistance, practice interviews, and other programs. The group also publishes a quarterly newsletter.

Adults Supporting Adults Project (ASAP) seeks to address the needs of the nontraditional student. It is designed to help adult students with the study skills and strategies needed to be successful college students. ASAP meetings are informal and allow adult students to share with fellow students their ideas, concerns and questions about various aspects of academic life.

Health and Wellness Committee is a collaboration between the Lake Campus, area hospitals, the local YMCA, and other community organizations, with a focus on promoting health awareness among students enrolled at WSU-LC and people in the community. A number of programs designed to enhance the quality of life are offered monthly, with an emphasis on helping students increase self-awareness and make positive changes in their current approach to their health, school and life.

Writing Across the Curriculum (WAC)

Baccalaureate degree students must complete a total of eight WAC courses, six in General Education (GE) and two in the major. Lake Campus students should meet with their advisor to determine the effect of this requirement on their individual programs.

Academic Programs

The academic programs at the Lake Campus consist of Associate of Arts and Associate of Science degrees and Associate of Applied Business, Associate of Applied Science, and Associate of Technical Study degrees; Bachelor of Science in Early Childhood Education, Bachelor of Science in Organizational Leadership, and a Bachelor of Science in Nursing completion program; Masters in Business Administration and Masters in Education.

Programs leading to the Associate of Arts or the Associate of Science degrees serve as prebaccalaureate programs to many of the degree programs offered at the Dayton campus. Students can complete up to two years of coursework before moving on to the Dayton campus for completion of a bachelor's degree or transferring to another four-year institution.

Brief descriptions of programs in both the academic and technical areas follow.

Bachelor of Science (B.S.) Organizational Leadership

The Bachelor of Science in Organizational Leadership degree was developed as a degree completion program for students who possess an associate degree (or an equivalent number of credit hours) and are interested in pursuing leadership positions within the private, public and nonprofit sectors of the economy. This is a unique, multidisciplinary program that requires students to take courses from the Raj Soin College of Business, the College of Education and Human Services, and the College of Liberal Arts. It provides students with broad academic experience as well as the practical background needed to ready them for the contemporary work environment. Students will be exposed to the theory and practice necessary for leading today's organizations, and be given the opportunity to develop skills in planning and controlling the human, physical, financial, and technical resources within organizations.

Organizational Leadership Degree Requirements

See General Education Requirements page 55

General Education Requirements 56

Associate Degree
Organizational Leadership Electives 70

Integrated Leadership Focus 19

Choose one:
ENG 330 or 333 4

Choose one:
CS 205 or 206 or 207 4

Choose one:
COM 101 or 102 or 141 3

Part of Core Sequence 8

Choose one:
PSY 304 or SOC 350 4

Choose one:
COM 225 or 240 or 423 or 453 or 453 4

Organizational Leadership Concentration 48

Required prerequisites: (choose two)
ACC 204 4
EC 204 4
TMK 200 4

Foundations (all required):
EDL 301, 302, 303, and 304 16

Fundamentals:
MGT 304 (required) 4

Choose three:
LAW 300 12
MGT 321 or 485
URS 423 or 424 or 450 or 470 or 475

Skills Integration (both required):
EDL 494 and 495 8

Total (minimum requirement) 193

Bachelor of Science (B.S.) Early Childhood Education

B.S.Ed. degree Leading to Licensure

The Pre-K–3 licensure program prepares students to teach children three years of age through grade three. The Pre-K–3 license qualifies you for employment in day care, nursery school, Headstart, public and private preschools, and primary (K–3) elementary grades. Students will be required to work with children from birth through third grade in Phases 1, 2, and 3. The program offers courses in general education, professional education, and curriculum content.

Most curriculum content classes should be completed within the student’s first two years. Some of the courses must be completed before ED or EDE classes may be taken. Admission to the College of Education and Human Services is required before Professional Education Courses may be taken. For admission to the College of Education, the student must have earned 45 credit hours, have a GPA of 2.5 or higher, and have a passing score, established by the college, on the math, writing and reading sections of the Praxis I test.

Early Childhood Education
(Pre-K–3, Ages 0–8)

For Degree Requirements Refer to: Education and Human Services Requirements in the University Catalog.

Bachelor of Science (B.S.) Middle Childhood Education

Pre-Professional Program in Middle Childhood B.S.Ed. degree Without Licensure

Important Note: The B.S.Ed. in Middle Childhood does not lead to licensure. Students must complete a graduate level program and Praxis II tests in order to be eligible for a license in Middle Childhood.

Concentrations that are available at the Lake Campus may vary. Student interest and service area need in specific concentrations are often a deciding factor in courses and/or concentrations to be offered. Contact the Lake Campus Program Director for Teacher Education to find out more about offerings available at the Lake Campus.

Middle Childhood Education

For Degree Requirements Refer to: Education and Human Services Requirements in the University Catalog.

Associate of Arts (A.A.) and Associate of Science (A.S.) Degrees

Biological Sciences (A.S.)

The associate degree in biological sciences is designed to provide students with a generalized background which may lead into almost any field of biology including botany, zoology, aquatics, oceanography, forestry, agriculture, and medical arts.
Requirements for the Associate of Science Degree

General Education Requirements 40

Departmental Requirements 27
BIO 112, 114, 115, 252, 256, 22
BIO 253, 254, or 255 5

Required Supporting Courses 36-38
CHM 121, 122, 123 15
MTH 229, 230, 231 or
MTH 228 or 229 and STT 264, 265 13-15
CS 205 4
PSY 110 4

Total (minimum requirement) 103/105

Business and Administration (A.S.)

The associate degree in business and administration is designed to prepare students to pursue a bachelor’s degree in business with majors in accountancy, economics, finance, management, and marketing. A knowledge of basic business functions and an awareness of the businessperson’s responsibilities in the political, social, and economic order of society are fundamental objectives of the program.

Requirements for the Associate of Science Degree

General Education Requirements 48

Departmental Requirements 36-40
ACC 204, 205 !206 8-12
EC 204, 205 8
MS 204, 205 8
*TMG 204, TMK 200, TAD 200 12

Required Supporting Courses 16-18
MTH 128 or 129 3-5
MTH 228 5
CS 205 4
ENG 330 4

Total (minimum requirement) 100/106

*These courses are applicable to the baccalaureate program with special conditions.
* Required for Accounting and Finance Majors

Chemistry (A.S.)

An associate degree in chemistry prepares students for work as entry-level technicians, or for articulation or transfer to a baccalaureate degree program. Entry-level jobs in chemical research, medical laboratories, pharmaceuticals, petroleum industry, plastics, and chemical manufacturing are all possibilities.

Requirements for the Associate of Science Degree

General Education Requirements 42

Departmental Requirements 33
CHM 121, 122, 123 15
CHM 211/215, 212/216, 213/217 18

Related Course Requirements 22
MTH 229, 230, 231 15
ENG 333 4
COM 101 or 102 or 141 3

Total (minimum requirement) 97

Communications (A.A.)

An associate degree in communications prepares students for a variety of entry level careers in the public and private sector or the media. It also serves as a seamless articulation to the Bachelor of Arts degree in Communications where students can major in mass communication, organizational communication, and communication studies.

Requirements for the Associate of Arts Degree

General Education Requirements 56

Departmental Requirements 12

Required Courses:
COM 101, 102, 141, 152 12
Electives* 22

Total (minimum requirement) 90

*Student should consult with academic advisor on recommended electives to be taken.

History (A.A.)

The associate degree in history prepares students to pursue a baccalaureate degree in history. Through exposure to a broad spectrum of human experience in the past and present, students come to understand their relationship to other human beings and the structure of society. The history major is useful to students who wish to seek a career in such fields as teaching, journalism, archival work, government, politics, and law.
Requirements for the Associate of Arts Degree

General Education Requirements 56

Departmental Requirements 6

HST 211, 212 6

Electives* 28

Total (minimum requirement) 90

*Student should consult with academic advisor on recommended electives to be taken.

Liberal Studies (A.A.)

An associate degree in liberal studies prepares students for a variety of entry-level careers or for a seamless articulation into the baccalaureate degrees in Liberal Studies or Organizational Leadership programs. The program allows students to tailor their academic program to their needs and interests across a wide range of disciplines.

Requirements for the Associate of Arts Degree

General Education Requirements 56

Core Requirements 24

Humanities 8
Fine Arts 8
Social Sciences 8
Related Hours 20

Professional Component Electives 12

Electives* 8

Total (minimum requirement) 100

*Student should consult with academic advisor on recommended electives to be taken.

Psychology (A.A.)

The associate degree in psychology prepares students to pursue a baccalaureate degree in psychology. It is designed to provide a broad introduction to contemporary psychology.

Requirements for the Associate of Arts Degree

General Education Requirements 53

Departmental Requirements 16

PSY 105, 110 8
PSY 311, 341 8
Related Course Requirements 8

STT 264, 265 8
Electives* 13

*Recommended for students planning careers in academics, research, or professional fields. Required in B.S. degree.

Social Work (A.A.)

The associate degree in social work is designed to prepare students for further baccalaureate study in social work. Career opportunities for the college graduate with a major in social work are found in governmental, private, and voluntary agencies. Typical agencies would include family services, children's services, public schools, hospitals, mental health centers, and probation/parole boards. A career in social work requires that the individual possess self-discipline, emotional stability, and intellectual creativity. Students should be interested in people of widely varying ages, abilities, and backgrounds.

Requirements for the Associate of Arts Degree

General Education Requirements 56

Departmental Requirements 8

SW 270, 271 8

Related Requirements 26

COM 102 3
PSY 110, 200, 341 12
SOC 221, 332 7
Electives* 4

Total (minimum requirement) 90

*Student should consult with advisor on recommended electives to be taken.

Sociology (A.A.)

The associate degree in sociology prepares students for further baccalaureate work. A major in sociology increases students' understanding of the organization and functioning of human social groups and of the methods and techniques for analyzing these social units. The study of sociology prepares students for careers in law, hospital administration, corrections, and government/community services.
Requirements for the Associate of Arts Degree

General Education Requirements 56

*Student should consult with advisor on any special general education requirements.

Departmental Requirements 34
SOC 200, 221, 320, 332 15
PSY 110, 200, 341 12
Electives* 7

Total (minimum requirement) 90

*Student should consult with advisor on recommended electives to be taken.

Technical Associate Degree Programs:

Associate of Applied Business (A.A.B.)

Associate of Applied Science (A.A.S.)

Associate of Technical Studies (A.T.S.)

Associate degrees in the following technical programs prepare students for career entry after two years of study. Technical education programs provide the type of career training desired by business, industry, governmental units, and many other employers. Technical programs will articulate to the bachelor's degree in Organizational Leadership.

Financial Management Technology (A.A.B.)

The associate degree in financial management combines courses from accounting, economics, and management thus providing the student a broad background in the universal subject areas of today's business environment. Graduates of the program obtain positions in bookkeeping, accounting assistant, computerized accounting systems, management trainee, assistant manager, production supervisor, foreman, or small business manager.

Requirements for the Associate of Applied Business Degree in Financial Management

General Education Requirements 20
ENG 101, 102, 330, or 333 12
Electives* 8

Departmental Requirements 53

Related Course Requirements 20
Elective* 3

Total (minimum requirement) 96

*Student should consult with advisor on recommended electives to be taken.

Contact the Lake Campus Academic Advisors for program checksheets.

Computer-Aided Drafting Design Technology (A.A.S.)

Computer-Aided Drafting majors prepare detailed drawings based on rough sketches, specifications, and calculations made by engineers and designers. They also calculate the strength, quality, quantity, and cost of materials. Final drawings contain a detailed view of the object as well as specifications for materials used, procedures followed, and other information to implement the job. They are also capable of working with computer-assisted drawing and preparing graphic display materials. WSU-LC CAD graduates will be able to choose from a wide range of jobs. Many graduates become draftspersons, CAD operators, design technicians, quality control technicians, or technical illustrators.

Requirements for the Associate of Applied Science Degree

At the time of catalog publication the program curriculum was being revised. Contact the Lake Campus academic advisors for revised program requirements.

Office Information Systems (A.A.B.)

The Associate of Applied Business in Office Information Systems offers three options for students to focus their interest.

Administrative Assistant Option

The administrative assistant in today's business world is a professional person who must make decisions and project and advance the public image of the executive for whom he or she works through communication skills and writing expertise. People in these positions must be proficient in all areas of office procedure and be skilled in operating office equipment in addition to assisting the executive. The
office information systems program encompasses all of these necessary skills while giving the student a well-rounded background.

Legal Administrative Assistant Option

Preparing legal documents for court action or any correspondence involving legal acts, rights, offenses, and ethics requires a precise understanding of form and terminology. Accuracy is vital for the legal administrative assistant. The legal administrative assistant program combines training and practice on office machines and in office procedures, while teaching the nomenclature of law. Included is a basic introduction to terminology, procedures, business administration, and economics. Electives permit students to broaden knowledge in areas of career specialty or personal interest.

Medical Administrative Assistant Option

In addition to furnishing classroom techniques for perfecting basic office skills such as typing, speedwriting, composition, and the use of office machines, the medical administrative assistant technology program incorporates fundamental courses in administration, accounting, economics, and computer skills, while giving students exacting instruction in medical terminology, medical office procedure, medical coding, biology, and psychology.

Requirements for the Associate of Applied Business Degree in Office Information Systems

General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101 and 102</td>
<td>8</td>
</tr>
<tr>
<td>Electives*</td>
<td>12</td>
</tr>
</tbody>
</table>

Departmental Requirements!

57-61

Related Requirements!

20

Total (minimum requirement) 97-101

*Student should consult with academic advisor on recommended electives to be taken.

†Departmental and related requirements may vary based on option selected.

Contact the Lake Campus Academic Advisors for program checksheets.

Requirements for the Office Information Systems – One-Year Certificate Program

A total of 45 credits from a clearly identifiable concentration of courses selected from the Office Information Systems curriculum and related business courses comprise this certificate program. All courses must be approved by the academic advisor prior to registering.

Total (minimum requirement) 45

Information Technology: Graphic Communications and Production Technology (A.A.B.)

Graduates of the Graphic Communication and Production Technology Program have a wide choice of careers in the desktop publishing field. A graduate may work as a graphic designer with a company that creates promotional material and advertising campaigns as well as catalogs, brochures, instruction manuals, newsletters, technical literature, and many other items requiring visual design. Publishing companies use desktop publishing to lay out books, magazines, and other publications. A graduate may work as a Webmaster, from designing and creating Web pages to maintaining the site.

Requirements for the Associate of Applied Business Degree in Information Technology

General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
</table>

Departmental Requirements

58

Related Requirements

20

Total (minimum requirement) 100

Contact the Lake Campus Academic Advisors for program checksheets.

Office Information Systems—One-Year Certificate Program

The holder of a One-Year Certificate in today’s business world is a professional person who must make decisions and project and advance the public image of the executive for whom he or she works through communication skills and writing expertise. People in these positions must be proficient in all areas of office procedures and be skilled in operating office equipment in addition to assisting the executive. The Office Information Systems and Certificate Programs encompass all of these necessary skills, while giving the student a well-rounded background. The One-Year Certificate is recognized by the state of Ohio as a training program, which qualifies students for entry-level administrative assistant positions.

Requirements for the Office Information Systems – One-Year Certificate Program

A total of 45 credits from a clearly identifiable concentration of courses selected from the Office Information Systems curriculum and related business courses comprise this certificate program. All courses must be approved by the academic advisor prior to registering.

Total (minimum requirement) 45
Associate of Technical Study (A.T.S.)

The Associate of Technical Study degree uses courses from existing two-year technical programs along with the General Education base to fulfill a unique educational need. Intended for individuals with specialized technical interests, the Associate of Technical Study degree allows the student to develop, with the guidance of a designated faculty advisor, an individualized technical program. This program must establish an educational goal and include a concentration of courses required to accomplish that goal.

A minimum of 45 credit hours of the total program must be in a clearly identifiable area of concentration. This technical component may be developed by combining courses from two or more academic disciplines. General Education requirements and basic course requirements must account for a minimum of 42 total credit hours. The Associate of Technical Study degree requires from 90 to 110 total credit hours; graduation requirements are the same as for other A.A.S. and A.A.B. degrees.

Many job opportunities in industry and business today require that technicians, programmers, and designers have exposure to a broad range of technologies. The Associate of Technical Study degree provides needed flexibility that industry finds essential as it continues to diversify and meet the needs of a changing industrial market.

Students can choose to follow a pre-designed program, such as: business applications, computer graphics, operations management, or may modify a program, or design one to meet their own needs. Advising is a key component of these programs. Interested students should start by contacting a Lake Campus advisor to discuss the unique opportunities available through A.T.S. degrees.

Requirements for the Associate of Technical Study Degree

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101, 102, 330 or 333</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>8</td>
</tr>
<tr>
<td>Technical Core Requirements*</td>
<td>48</td>
</tr>
<tr>
<td>Total (minimum required)</td>
<td>90</td>
</tr>
</tbody>
</table>

Related Course Requirements

| CS 205 | 4 |
| Math: Level 3 or higher | 3-5 |
| TEG 141 | 3 |
| Electives ! | 10-12 |

*This technical component may be developed by combining courses from two or more of the academic programs in the technical area. This development is done through the guidance of a designated faculty advisor.

Certificates

Certificate in Management

The Certificate in Management is a sequence of courses designed to prepare students to become effective managers. The course offerings are for persons who have had little or no formal training in management principles. Courses meet either during the week or on weekends, allowing a convenient time choice. All certificate classes may be applied toward an associate degree.

Requirements for Certificate in Management

| Courses | 22 |
| ACC 204 | 4 |
| MGT 100, 200 | 7 |
| TMG 204 | 4 |
| COM 141 | 3 |
| EC 204 | 4 |
| Total (minimum required) | 22 |

Advanced Certificate in Management

The Advanced Certificate in Management is a sequence of courses designed to prepare students to become effective managers. The course offerings are for persons who have completed the Certificate in Management. All courses meet during the week and on weekends and may be applied toward an associate degree.

Requirements for Advanced Certificate in Management

| Courses | 17 |
| TMG 210, 270 | 6 |
| TMK 200 | 4 |
| CS 205 | 4 |
| COM 203 | 3 |
| Total (minimum required) | 17 |
Certificate in Desktop Publishing
The Certificate in Desktop Publishing is a sequence of courses designed for the person in the office wishing to learn or implement desktop publishing skills.

Requirements for Certificate in Desktop Publishing
Courses 9
TOA 241, 242, 243 9
Total (minimum required) 9

Certificate in Word/Information Processing
The Certificate in Word/Information Processing is a three-quarter sequence of courses designed for the person in the office wishing to upgrade or to implement word processing skills in an office environment.

Requirements for Certificate in Word/Information Processing
Courses 9
EDT 220, 221, 222 9
Total (minimum required) 9

Certificate in Computer-Aided Drafting (CAD)
The Certificate in CAD is a sequence of courses designed to provide a thorough understanding of how the computer-aided drafting process functions in industry. The certificate program covers the fundamental principles and methods used in designing a product with AutoCAD. The certificate is designed for individuals who have a thorough understanding of drafting principles, but no CAD experience is assumed. All courses meet during the week or on Saturdays. Contact the Lake Campus for a listing of certificate options offered in CAD.

Certificate in Microcomputer Applications
The Certificate in Microcomputer Applications is a three-quarter sequence of courses designed to provide a thorough coverage of many practical uses of microcomputers. A broad range of applications will be presented along with fundamental computer operations to prepare students to use microcomputers effectively at home or in business. Depending on the chosen major, some or all courses may be applicable toward an associate degree.

Requirements for Certificate in Microcomputer Applications
Courses 12
CS 205, 206, 207 12
Total (minimum required) 12

Certificate in PhotoShop Design and Applications
The Certificate in PhotoShop Design and Applications is a three-quarter sequence of courses designed for instruction in the proper use of Adobe PhotoShop techniques, such as filters, screens, backgrounds, photographs, and other desktop publishing applications to be integrated with other software programs.

Requirements for Certificate in PhotoShop Design and Applications
Courses 9
Beginning PhotoShop Applications 3
Intermediate PhotoShop Applications 3
Advanced PhotoShop Applications 3
Total (minimum required) 9

Certificate in Software Applications
The Certificate in Software Applications is a selection of nine one-credit hour software courses offered through the Office Information Technology department. Several one-credit hour courses are offered each quarter and topics vary. Students must complete nine of the one-day courses within the academic calendar (summer included) to be eligible to receive the certificate. Consult the Lake Campus quarterly class schedule for a listing of topics, dates, and times offered.
Certificate in Graphics/Design

The Certificate in Graphics/Design is an eighteen-credit hour selection of courses designed for the associate/bachelor degree graduates or individuals currently employed in the graphics field who desire to add current software and procedures that will assist them in their current positions. Students will select courses from the two-year Graphics Design program. Prerequisite knowledge may be required in some courses. Advisor approval required.
Throughout this catalog, specific courses are indicated by abbreviations followed by a number. The list below shows the abbreviations for the different areas of study, followed by the name of each area of study and the page on which the course descriptions for the areas begin.

ACC  Accountancy, p. 216
AES  Aerospace Science, p. 218
AFS  African and African American Studies, p. 219
ANT  Anatomy, p. 219
ATH  Anthropology, p. 221
ART  Art and Art History, p. 219
AED  Art Education, p. 218
AT  Art Therapy, p. 221
ATR  Athletic Training, p. 223
AVI  Aviation, p. 224
BMB  Biochemistry and Molecular Biology, p. 228
BIO  Biological Sciences, p. 224
BME  Biomedical Engineering, p. 228
BUS  Business, p. 229
CHM  Chemistry, p. 233
CHI  Chinese, p. 232
CLS  Classics, p. 236
CL  Clinical Laboratory Science, p. 235
COM  Communication, p. 237
CPL  Comparative Literature, p. 240
CST  Comparative Studies, p. 243
CSE  Comparative Studies, p. 243
CEG  Computer Engineering, p. 230
CS  Computer Science, p. 240
CNL  Counseling, p. 237
DAN  Dance, p. 243
DN  Danish, p. 247
DEV  Developmental Education, p. 246
EC  Economics, p. 247
ECO  Center for Economic Education, p. 250
ED  Education, p. 250
EDL  Educational Leadership, p. 255
EDT  Educational Technology, p. 256
EDE  Education — Early Childhood Education, p. 253
EDS  Education — Special Education, p. 255
EE  Electrical Engineering, p. 257
EGR  Engineering, p. 260
EP  Engineering Physics, p. 266
ENG  English, p. 262
EH  Environmental Health Sciences, p. 261
FIN  Finance, p. 266
FR  French, p. 268
GEO  Geography, p. 270
GL  Geological Sciences, p. 274
GER  German, p. 272
GR  Greek, p. 277
HEB  Hebrew, p. 278
HLT  Health, p. 278
HED  Health Education, p. 278
HPR  Health, Physical Education, and Recreation, p. 278
HST  History, p. 280
IB  International Business, p. 283
ISE  Industrial and Systems Engineering, p. 283
ITA  Italian, p. 284
JPN  Japanese, p. 284
LAT  Latin, p. 285
LAW  Law, p. 286
LA  Liberal Arts, p. 285
LI  Linguistics, p. 286
MGT  Management, p. 290
MIS  Management Information Systems, p. 292
MS  Management Science, p. 296
MKT  Marketing, p. 293
MTH  Mathematics, p. 297
ME  Mechanical and Materials Engineering, p. 287
M&I  Microbiology and Immunology, p. 286
MIL  Military Science, p. 291
ML  Modern Language Humanities, p. 295
MP  Motion Pictures, p. 295
MUA  Applied Music, p. 302
MUS  Music, p. 303
NUR  Nursing, p. 309
OA  Office Administration, p. 312
PHR  Pharmacology, p. 314
PHL  Philosophy, p. 312
PHY  Physics, p. 315
P&B  Physiology and Biophysics, p. 312
PLS  Political Science, p. 318
POR  Portuguese, p. 322
PSY  Psychology, p. 322
RST  Regional Studies, p. 330
RSE  Regional Studies, p. 330
RHB  Rehabilitation, p. 328
RM  Rehabilitative Medicine and Restorative Care, p. 230
REL  Religion, p. 326
RIA  Research Intelligence Analysis, p. 330
RUS  Russian, p. 331
SM  Science and Math, p. 331
SW  Social Work, p. 337
SOC  Sociology, p. 331
SPN  Spanish, p. 334
Course Numbering System

0-99 Remedial precollege-level courses.
100-499 Lower division courses intended for undergraduate credit only. The first digit indicates the general level of the course: 1 for a first-year course, 2 for a second-year course, 3 for a third-year course, 4 for a fourth-year course. Courses in this category that are acceptable for graduate credit carry alternate numbers in which the first digit only is changed to a 5 or a 6 according to the definitions below.
500-599 Courses that carry graduate credit only in a major field different from that of the department offering the course. Most such courses will be alternate designations of courses normally numbered 300-499.
600-699 Courses that carry graduate credit in any major field and have alternate designations in which the first digit is a three or four when taken for undergraduate credit.
700-999 Courses intended for graduate credit only.

The number following the hyphen indicates the number of credit hours for that course. Courses designated by consecutive numbers are related courses; courses to be taken in sequence are so designated in the descriptions.
A list of course abbreviations and an explanation of the course numbering system can be found on pages 214 and 215. Not all courses described here are offered every quarter or every year. For a more detailed listing of prerequisites, enrollment restrictions, and specific courses offered in a particular quarter, consult the Wright State class schedule published each fall, winter, spring, and summer.

Accountancy/ACC

201 Accounting Concepts and Principles I
Introduction to accounting for business enterprises. Includes analysis of financial statements and reports for managers and other users. Prerequisite: Sophomore status required. ACC 201, 202, 203 must be taken in sequence.

202 Accounting Concepts and Principles II
(3 credit hours)
Introduction to accounting for business enterprises. Includes analysis of financial statements and reports for managers and other users. Prerequisite: ACC 201. Sophomore status required. ACC 201, 202, 203 must be taken in sequence.

203 Introduction to Accounting Systems
(3 credit hours)
Introduction to the collection of accounting data for use in the preparation of financial statements and other accounting reports. Course will include completion of one or more practice cases. Prerequisite: ACC 202. Sophomore status required. ACC 201, 202, 203 must be taken in sequence.

204 Accounting Principles I (4 credit hours)
Introduction to accounting for business enterprises. Includes analysis of the effect of transactions on financial position, preparation of financial statements, reports for managers, and financial statement analysis.

205 Accounting Principles II (4 credit hours)
Introduction to accounting for business enterprises. Includes analysis of the effect of transactions on financial position, preparation of financial statements, reports for managers, and financial statement analysis. Prerequisite: ACC 204.

206 Accounting Systems and Internal Control
(4 credit hours)
Use of accounting systems to record business transactions and generate financial information. Assess the design, implement and evaluate controls for accounting systems. Course will include completion of one or more practice sets. Prerequisite: ACC 205.

304 Financial Accounting I (3 credit hours)

305 Financial Accounting II (3 credit hours)
Development of financial accounting theory and its application to complex problems in the valuation of balance sheet accounts, determination of net income, and preparation of financial statements. Prerequisite: ACC 304, with a GRADE OF "C" or BETTER, and CS 205.

306 Financial Accounting III (3 credit hours)
Development of financial accounting theory and its application to complex problems in the valuation of balance sheet accounts, determination of net income, and preparation of financial statements. Prerequisite: ACC 305, with a grade of "C" or better.

307 Intermediate Accounting I (4 credit hours)
Course examines financial accounting concepts and its application to complex problems in the measurement of balance sheet accounts, determination of net income and preparation of financial statements. Course emphasizes measurement and reporting of assets. Prerequisite: ACC 206 (203).

308 Intermediate Accounting II (4 credit hours)
Course examines financial accounting concepts and their application to complex problems in the measurement of balance sheet accounts, determination of net income, and preparation of financial statements. Course emphasizes measurement and reporting of liabilities. Prerequisite: ACC 307.

309 Advanced Accounting (4 credit hours)
To study the accounting principles and techniques used to consolidate parent and subsidiary companies at the date of combination and in subsequent periods. Prerequisite: ACC 308 (304, 305, 306).

321 Management Accounting I (3 credit hours)
Discusses concepts, techniques, and accounting procedures for both manufacturing and service firms. Prerequisite: CS 205, ACC 203.

322 Management Accounting II (3 credit hours)
Application of managerial accounting concepts and techniques to complex problems in manufacturing accounting and to other areas including distribution, research, and development costs. Prerequisite: ACC 321, with a grade of "C" or better.

323 Management Accounting (4 credit hours)
Application of managerial accounting concepts and techniques to complex problems in manufacturing accounting and service firms. Prerequisite: ACC 206 or 205.

326 Accounting Systems Design and Implementation
(4 credit hours)
328 Accounting Systems I (3 credit hours)
Fundamental concepts of information, communication, and systems that form the framework for the design of data processing and accounting systems. Prerequisite: accountancy majors, ACC 321, MIS 300 or MIS 322; all other majors, ACC 321 or ACC 300 and MIS 300 or MIS 322.

407 Financial Accounting IV (3 credit hours)
Comprehensive study of business combinations and consolidated financial statements. Prerequisite: ACC 306.

412 Accounting Systems II (3 credit hours)
Application of accounting systems in handling principal business transactions and situations. Prerequisite: ACC 328.

421 Auditing I (3 credit hours)
Discusses financial, operational, and compliance audits from the user's perspective of audit reports. Examines purpose and limitations of audits, as well as the legal and regulatory environments in which audits are performed. Prerequisite: ACC 306, ACC 328.

422 Auditing II (3 credit hours)
Application of auditing techniques, including planning, execution, and documentation of findings, with a focus on internal auditing. Audit sampling, auditing in a computerized environment, and other current auditing issues are discussed. Prerequisite: ACC 421.

423 Auditing (4 credit hours)
This course provides an overview of financial, operational and compliance audits. Key auditing concepts are introduced: materiality, risk assessment, audit objectives, evidence, internal control considerations, and computer assisted audit techniques. Prerequisite: ACC 326 (328).

424 Management Accounting Advanced (4 credit hours)
Identification, description, and analysis of the behavioral science and quantitative methods employed for management accounting. Writing intensive. Prerequisite: ACC 326.

431 Governmental Accounting (3 credit hours)
Discusses principles of the fund accounting model. The primary focus of the course will be the application of these principles to state and local government units. Prerequisite: ACC 305.

441 Income Tax Accounting I (3 credit hours)
Discusses history, theory, and basic tax structure pertaining to individuals and businesses. Prerequisite: ACC 202.

442 Income Tax Accounting II (3 credit hours)
An introduction to the federal income taxation of business entities and owners. Consideration is also given to the federal income tax implications of property transfer, the alternative minimum tax, and the legal and ethical responsibilities of the tax practitioner. Prerequisite: ACC 441.

444 Federal Income Tax II (4 credit hours)
An introduction to the federal income taxation of business entities and owners. Considers state and local taxes and their impact on tax strategies. Introduction to the legal and ethical responsibilities of the tax practitioner. Prerequisite: ACC 343.

451 International Accounting (3 credit hours)
Examines comparative country practices and the international aspects of various accounting topics—financial and managerial accounting, social accounting, inflation accounting, auditing, and taxation. Prerequisite: ACC 202 or equivalent.

454 International Accounting (4 credit hours)
Examines comparative country practices and the international aspects of various accounting topics—financial and managerial accounting, social accounting, inflation accounting, auditing, and taxation. Prerequisite: ACC 205.

477 Special Topics in Accounting (1 to 4 credit hours)
Topics and prerequisites vary.

478 Honors: Independent Study in Accountancy (4 credit hours)
Research in accounting for fulfillment of the Honors Program project requirement.

481 Internship in Accounting (4 credit hours)
One quarter, faculty-supervised internship in the areas of public, industrial, or governmental accounting. At the conclusion of the internship the student is required to submit a report based on a topic agreed upon between the student and the sponsoring faculty. Prerequisite: ACC 206.

498 Seminar in Managerial Accounting (3 credit hours)
Identification, description, and analysis of the behavioral science and quantitative methods applications for management accounting. Prerequisite: ACC 306, ACC 322 and senior standing.

499 Seminar in Financial Accounting (3 credit hours)
Identification and analysis of contemporary issues and problems in the area of financial accounting. Prerequisite: ACC 306 and ACC 421 (Or concurrent with 421.)
Art Education/AED

430 Independent Reading in Art Education (3 to 9 credit hours)
Expands students’ knowledge of philosophy, aesthetics, and creative and mental growth as related to art teaching and art education curricula. Emphasis on current books, magazines, and research in art education. Prerequisite: Junior or senior standing.

431 Art and the Child (4 credit hours)
Understanding child growth and development through creative expression with emphasis on functions and procedures for art in the classroom. Includes curriculum implementation strategies. Experiences in art media appropriate to the elementary school and in-field observations of art in the schools. Prerequisite: or Corequisite: ED 327, or permission of instructor.

432 Art and the Adolescent (3 credit hours)
Develops an understanding of individual differences, psychological sets, and various roles of the adolescent as related to art and creativity. Curriculum planning, comparative theories, in-field observations, and analysis of art class content included. Prerequisite: AED 431, or consent of the instructor.

438 Art Methods for School (4 credit hours)
Develops an understanding of the needs of children involved in art activities; study of elementary and secondary teaching techniques, materials, and curriculum organization. In-field work prior to student teaching. Reading components and teaching strategies included. Prerequisite: AED 431-432; ED 211 through 217; or equivalent. Corequisite: ED 323.

Aerospace Science/AES

121 The Air Force Way I (1 credit hour)
An introduction to USAF ROTC. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and communication skills.

122 The Air Force Way II (1 credit hour)
An introduction to the USAF ROTC. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and communication skills.

123 The Air Force Way III (1 credit hour)
An introduction to USAF ROTC. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and communication skills.

221 The Air Force Way IV (1 credit hour)
A survey course facilitating the transition from Air Force ROTC cadet to ROTC candidate. Featured topics include: Air Force heritage, leaders, Quality Air Force, ethics and values, leadership, group leadership problems, and application of communication skills.

222 The Air Force Way V (1 credit hour)
A survey course facilitating the transition from Air Force ROTC cadet to ROTC candidate. Featured topics include: Air Force heritage, leaders, Quality Air Force, ethics and values, leadership, group leadership problems, and application of communication skills.

223 The Air Force Way VI (1 credit hour)
A survey course facilitating the transition from the USAF ROTC cadet to ROTC candidate. Featured topics include: Air Force heritage, leaders, Quality Air Force, ethics and values, leadership, group leadership problems, and application of communication skills.

331 Air Force Leadership and Management I (3 credit hours)
Study of leadership and quality management fundamentals, professional knowledge, the USAF doctrine, leadership ethics, and communication skills. Case studies are used to examine the USAF leadership and management situations.

332 Air Force Leadership and Management II (3 credit hours)
Study of leadership and quality management fundamentals, professional knowledge, the USAF doctrine, leadership ethics, and communication skills. Case studies are used to examine the USAF leadership and management situations. Prerequisite: AES 331.

333 Air Force Leadership and Management III (3 credit hours)
Study of leadership and quality management fundamentals, professional knowledge, the USAF doctrine, leadership ethics, and communication skills. Case studies are used to examine the USAF leadership and management situations. Prerequisite: AES 332.

431 Preparation for Active Duty I (3 credit hours)
Examines national security process, regional studies, advanced leadership ethics, and the USAF doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, current issues, and refining communication skills.

432 Preparation for Active Duty II (3 credit hours)
Examines national security process, regional studies, advanced leadership ethics, and the USAF doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, current issues, and refining communication skills. Prerequisite: AES 431.
433 Preparation for Active Duty III (3 credit hours)
Examines national security process, regional studies, advanced leadership ethics, and the USAF doctrine. Topics include the military as a profession, officerhood, military justice, civilian control of the military, current issues, and refining communication skills. Prerequisite: AES 432.

African/African American Studies/AFS

200 What is the African and African American Experience? (4 credit hours)
A historical and methodological analysis of both African histories and cultures and the history of the diaspora struggles of persons of African descent to create a life and distinct culture among world civilizations.

300 African American Perspectives and Models of Success (4 credit hours)
A critical study of real-life problems impacting African and African American life: economics, education, crime, gender issues, urban problems, globalism, etc. This course utilizes real-life models of success as examples of how to effectively overcome these problems. Prerequisite: AFS 200. Must have junior class standing.

400 Service Experience (4 credit hours)
Field placement of students in community organizations, social service agencies, and governmental entities where they will engage in work that relates to and enhances their understanding of the African American experience. Prerequisite: AFS 200, 300. Senior class standing required.

401 Senior Research Project (2 credit hours)
Divided over two quarters, this course allows students to bring their study in the major to completion through a major research project that focuses on one specific aspect of African or African American life. Prerequisite: AFS 200, 300, 400. Senior class standing required.

499 Special Topics in African & African American Studies (1 to 4 credit hours)
Selected topics relevant to historical and current issues in African and African American studies. Course may be repeated for up to four credit hours.

Anatomy/ANT

201 Basic Human Anatomy I (4 credit hours)
Osteology; histology of basic tissues; and topographical, histological, and developmental anatomy of nervous and endocrine systems. Laboratory exercises use human materials. 2.5 hours lecture, three hours lab.

202 Basic Human Anatomy II (4 credit hours)
Basic topographical, histological, and developmental anatomy of the muscular, cardiovascular, digestive, respiratory, urinary, and reproductive systems. Laboratory exercises use human materials. 2.5 hours lecture, three hours lab. Prerequisite: ANT 201 or consent of instructor.

426 Immunology & Basic Virology (3 credit hours)
Study of the fundamentals of immunobiology and basic virology: emphasis on the regulatory and cellular Level of host immune responses against microbial pathogens as well as mechanisms of immunopathology and on the characteristics and molecular biology of virus pathogens. Prerequisite: BIO 105, 107.

445 Immunobiology (5 credit hours)
Study of biology of the immune system in terms of current concepts of antibody formation and function. Acquired, delayed, and immediate hypersensitivities are studied with respect to immunological deficiencies, malignancy, tolerance, graft rejection, infection, and acquired resistance. Four hours lecture, one hour recitation. Prerequisite: BIO 210, 211, 212 or department permission.

491 Fundamentals of Human Neurobiology (4 credit hours)
The development, structure and function of the human nervous system as it relates to neuropathology, clinical neurology and behavioral science.

499 Selected Topics in Anatomy (1 to 5 credit hours)
May be taken for letter grade or pass/unsatisfactory. Prerequisite: A minimum 2.2 cumulative Grade Point Average and junior standing are required.

Art/ART

200 Sophomore Workshop (1 credit hour)
Introduction to slide taking, matting and framing and professional opportunities for art majors. This course is a prerequisite for all upper Level studio art courses. Graded pass/unsatisfactory.

211 Art History I: Before 1150 AD (4 credit hours)
Painting and sculpture before A.D. 1150. Introduces the basic concepts of visual and stylistic analysis and a historical survey of painting and sculpture in the Western world from prehistoric to medieval times.
212 Art History II: 1150 to 1850 (4 credit hours)

Painting and sculpture from 1150 to 1850. Historical survey of painting and sculpture in the Western world from late medieval times to the dawn of the modern era. Prerequisite: ART 211 or permission of instructor.

213 Art History III: 1850 to Present (4 credit hours)

Painting and sculpture since 1850. Historical survey of modern painting and sculpture in the Western world. Prerequisite: ART 212 or permission of instructor.

214 Visual Art in Western Culture (4 credit hours)

Introduction to the visual arts focusing on selected major works of art throughout history. Discusses comparisons across time, basic art media, and the formal characteristics of art.

215 Foundations of Art Education (4 credit hours)

Introductory course in art education involving approaches for aesthetic awareness, inquiries into theories of art, art appreciation and criticism, current issues, as well as child development through art, and art education methodologies. (Previously listed as AED 214, credit hours)

301 Independent Study in Art (1 to 4 credit hours)

Special studies and intensive individual work with faculty supervision in art.

303 Independent Study in Art (1 to 4 credit hours)

Special studies and intensive individual work with faculty supervision in art.

309 Studies in Art Theory and Philosophy (4 credit hours)

Courses offered under this number provide both historical surveys and intensive studies in art theory and philosophy. Prerequisite: ART 213 or permission of instructor. Prerequisite: ART 213 or permission of instructor.

375 Intermediate Sculpture—Armatures, Moulds and Casting (4 credit hours)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using armature structure, mould making, and casting. May be taken for letter grade or pass/unsatisfactory. Prerequisite: ART 208 or permission of instructor.

376 Intermediate Sculpture—Clay Forming and Firing (4 credit hours)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using clay forming and firing. May be taken for letter grade or pass/unsatisfactory. Prerequisite: ART 208 or permission of instructor.

377 Intermediate Sculpture—Metal Fabricating & Stone Carving (4 credit hours)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using metal fabricating and stone carving. May be taken for letter grade or pass/unsatisfactory. Prerequisite: ART 208 or permission of instructor.

379 Intermediate Sculpture—Figure Modeling (4 credit hours)

Introduction to techniques and concepts involved in sculpting from life. Concentration on the development of greater understanding of the human figure and an increased sensitivity to three-dimensional form. Course may be repeated for credit. May be taken for letter grade or pass/unsatisfactory. Prerequisite: ART 208 or permission of instructor.

397 Introduction to Museum Studies (4 credit hours)

Examination of the history, purposes, and literature of museums and galleries. Various aspects of gallery management such as planning, organizing, and installing exhibitions. Prerequisite: ART 211, 212 and 213.

400 Senior Seminar (2 credit hours)

Group discussions of contemporary writings in art and critiques of student work in a peer setting with faculty and visiting artists participating on an informal basis. Prerequisite: Successful completion of BFA review.

401 Independent Study in Art History (1 to 4 credit hours)

Intensive individual work with faculty supervision in art history.

404 Studies in Art History (1 to 4 credit hours)

Provides opportunities to explore problems and approaches to art and art history and includes cross-period and interdisciplinary studies. Prerequisite: ART 213 or permission of instructor.

405 Studies in Art (1 to 4 credit hours)

Provides opportunities to explore problems and approaches to art and includes cross-media and interdisciplinary studies.

409 Studies in Art Theory and Criticism (4 credit hours)

Historical surveys and intensive studies of art theory and criticism. Prerequisite: ART 213 or permission of instructor.

410 Studies in American Art (4 credit hours)

General surveys and intensive studies of periods, major movements, and artists of the time. Prerequisite: ART 213 or permission of instructor.

411 Studies in Ancient and Classical Art (4 credit hours)

(Also listed as CLS 340.) General surveys and intensive studies of the period, major movements, and artists of the time. Prerequisite: ART 211 or permission of instructor.
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412 Studies in Medieval Art (4 credit hours)
General surveys and intensive studies of the period, major movements, and artists of the time.
Prerequisite: ART 211 or permission of instructor.

413 Studies in Renaissance Art (4 credit hours)
General surveys and intensive studies of the period, major movements, and artists of the time.
Prerequisite: ART 212 or permission of instructor.

414 Studies in Baroque Art (4 credit hours)
General surveys and intensive studies of the period, major movements, and artists of the time.
Prerequisite: ART 212 or permission of instructor.

415 Studies in Nineteenth Century Art (4 credit hours)
General surveys and intensive studies of the period, major movements, and artists of the time.
Prerequisite: ART 213 or permission of instructor.

416 Studies in 20th Century Art (4 credit hours)
General surveys and intensive studies of the period, major movements, and artists of the time.
Prerequisite: ART 213 or permission of instructor.

417 Studies in Non-Western Art (4 credit hours)
General surveys and intensive studies of periods, major movements, and artists in non-Western art.
Prerequisite: ART 211 or permission of instructor.

497 Advanced Museum Studies (4 credit hours)
Classroom and supervised practical work in art gallery and museum management. Prerequisite: ART 297 or permission of instructor.

Art Therapy/AT

360 Introduction to Art Therapy (3 credit hours)
Overview of the development of art therapy, current practice, and an introduction to clinical processes. Observation experience included. Prerequisite: AED 431 or permission of instructor.

370 Independent Study in Art Therapy
(1 to 3 credit hours)
Planned readings, project, participation/observation clinic experiences, or other appropriate study on an independent basis. Work is supervised by an art therapy faculty member. Graded pass/unsatisfactory.

371 Art Therapy Clinic (1 to 3 credit hours)
On-campus clinical art therapy experience under the supervision of a registered art therapist. May be repeated up to a maximum of 3 credit hours. Prerequisite: AT 360 or permission of instructor.

420 Media in Art Therapy (3 credit hours)
Experience with a variety of media appropriate to the clinical setting. Appropriate art media for remediation, adaptation, and expression included with application procedures discussed. Prerequisite: AT 360 or permission of instructor.

429 Workshop in Art Therapy (1 to 6 credit hours)
Focuses on problems, processes, and techniques for the development of art therapy in special settings with diverse populations. Work in art media, assessment strategies, and treatment plans included. Discussion of implementation procedures with populations.

444 Art and Special Student (3 credit hours)
Experiences to help those who will work with handicapped/disabled students to become aware of creative philosophy, art media, and therapeutic procedures. Approaches in creative activity included. Junior or Senior standing required.

Anthropology/ATH

200 World of Primitive Contemporaries
(3 credit hours)
Survey of the world’s non-Western cultures. Discussions include the various ways contemporary peoples live and the relationship between primitive and contemporary cultures.

241 Introduction to Physical Anthropology
(4 credit hours)
An overview of human biology and behavior, including human evolution, primate behavior, and human physical variation.

242 Introduction to Archaeology
(4 credit hours)
Introduction to the nature of archaeological data, techniques of archaeological dating, and methods of data collection, analysis, and interpretation.

250 Introduction to Cultural and Social Anthropology
(3 credit hours)
Surveys various fields or sub-disciplines of anthropology to enable anthropology majors to complete upper-division courses effectively. Emphasis on identifying cultural symbols and social interaction in ethnic groups. Prerequisite: CST 240 or Anthropology major.

340 Applied Anthropology: An Introduction
(4 credit hours)
Introduces various aspects of applied anthropology as currently used in a variety of behavioral activity fields locally, nationally, and internationally.

341 Indians of North America
(4 credit hours)
Survey of selected North American Indian societies, contrasting their modern and aboriginal cultures.

342 Anthropology of Sex and Gender
(4 credit hours)
Studies similarities and differences between males and females, their status, roles in selected societies, stereotypes, physical and behavioral aspects of sex and gender, and cross-cultural variations in gender roles.
346 Anthropology of Religion (4 credit hours)  
(Also listed as REL 362.) Anthropological approach to meaning and function of religion in social life, and nature of thought or belief systems that give rise to different forms of religious life. Emphasis on primitive and peasant societies.

349 Anthropological Linguistics (4 credit hours)  
The science of language as an anthropologist's tool for field research. How to describe language as sound, and write an unwritten language; how the anthropologist can make use of linguistic training for acquiring cultural data.

351 Human Evolution (4 credit hours)  
History, description, and interpretation of the fossil record for primate evolution with emphasis on human evolution.

352 Primate Behavior (4 credit hours)  
Detailed examination of the behavior of nonhuman primates, including monkeys and apes, as it relates to human evolution and behavior.

358 Human Variation and Adaptation (4 credit hours)  
Examination of human biological variation focusing on interpopulation variation, environmental adaptation, and the concept of race.

365 Archaeology of North America (4 credit hours)  
Detailed examination of the major prehistoric cultures of North America. Emphasis on eastern North American prehistory.

368 Archaeological Field Techniques (4 credit hours)  
Classroom and field preparation for archaeological survey and excavations. Prerequisite: ATH 242 or permission of instructor.

392 Readings in Anthropology (2 to 4 credit hours)  
May be taken for letter grade or pass/unsatisfactory.

396 Careers for Anthropology Majors (2 credit hours)  
A combination workshop and field study in which students learn how to prepare a resume, how to find out about career possibilities, and how to meet people who are active practitioners. Prerequisite: COM 304.

399 Studies in Selected Subjects (1 to 4 credit hours)  
Problems, approaches, and topics in the field of anthropology. Topics vary.

400 Topics in Archaeology (4 credit hours)  
Advanced study of various specialized aspects of archaeology. Classes may be lecture or seminar.

410 Special Topics in Cultural Anthropology (4 credit hours)  
Selected topics concerning the method and theory of anthropological thought and their relationship to the allied disciplines of economics, linguistics, art, politics, and history. Emphasis on current trends influencing research in cultural anthropology. Topics vary.

446 Peoples and Cultures of South Asia (4 credit hours)  
Survey and analysis of cultural diversity and unity in southern Asia, particularly India, Pakistan, Bangladesh, and Sri Lanka.

447 Peoples and Cultures of Africa (4 credit hours)  
Survey of the peoples and sociocultural systems of Africa with emphasis on sub-Saharan ecological and biocultural relationships.

448 Development of Ethnological Thought (4 credit hours)  
Surveys historical development of ethnological thought and emphasizes theories of social and cultural change. Prerequisite: Senior standing and permission of instructor.

450 Political Anthropology (4 credit hours)  
(Also listed as PLS 450.) Study of the cultural part of primitive societies that we recognize as political organization. An attempt is made to show how in less complex (primitive) societies new local communities come into being through fission.

455 Biomedical Anthropology (4 credit hours)  
An anthropological perspective of health and illness in selected societies of the world. Integrates physical, social, and cultural dimensions of disease, nutrition, fertility and population growth, health beliefs and practices, and the consequences of culture change and modernization.

458 Anthropology of Women's Health (4 credit hours)  
Integrates biological and sociological dimensions of women's health throughout the world. It examines cross-cultural variation in disease and illness and the sociocultural contexts that define models of women's health.

465 Seminar in Woodland Archaeology (4 credit hours)  
Intensive review of the prehistoric Woodland period (600 B.C.-A.D. 900) of eastern North America. Regional cultures such as Adena and Ohio Hopewell and topics including trade, the economy, political organization, and mortuary customs are considered.

468 Seminar in Archaeological Theory (4 credit hours)  
Wide-ranging survey of traditional and contemporary archaeological theory, with study of its applications in various parts of the world. Prerequisite: ATH 242 or permission of instructor.

475 Historical Archaeology (4 credit hours)  
Focuses on the post-European discovery period of America. Archaeological interpretations of colonial, plantation, industrial, frontier, and urban sites and materials are explored in seminar discussions and through laboratory analyses of southwest Ohio site collections. Prerequisite: ATH 242.
**Course Descriptions**

- **492 Independent Research in Anthropology**
  (2 to 4 credit hours)
  May be taken for letter grade or pass/unsatisfactory.

**Athletic Training/ATR**

- **261 Basic Principles of Athletic Training**
  (4 credit hours)
  Introductory course to the field of athletic training.
  Three hours lecture, two hours lab.

- **262 Athletic Emergency Care**
  (3 credit hours)
  The recognition and management of athletic emergencies will be emphasized.
  The relationships of other allied health care providers in similar situations will also be discussed and studied.
  Prerequisite: ATR 261.

- **284 Basic Skills in Athletic Training**
  (1 to 15 credit hours)
  Supervised field work for sophomore students who are seeking certification or a concentration in a specific area.
  Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

- **285 Rehabilitation Skills**
  (3 credit hours)
  This is the second practicum in a series of nine to meet the competencies of athletic training.
  The emphasis will be in the development of injury/illness rehabilitation protocols for the physically active.
  Prerequisite: ATR 261.

- **286 Emergency Management Skills**
  (3 credit hours)
  This is the third practicum in a series of nine to meet the competencies of athletic training.
  The emphasis will be on emergency situations and appropriate protocols of care.
  Prerequisite: ATR 261.

- **303 Therapeutic Exercise in Athletic Training**
  (3 credit hours)
  Methods of evaluating students and design of individual exercise programs for students with temporary or permanent physical limitations.
  Prerequisite: HPR 212.

- **360 Therapeutic Modalities in Athletic Training**
  (3 credit hours)
  The study and practical application of therapeutic modalities for the treatment of athletic injuries.
  Modalities may include superficial heat and cold, hydrotherapy, massage, traction, intermittent compression units, ultrasound, electrostimulation, and microwave and shortwave diathermy.
  Prerequisite: ATR 261, 303, 361, 384, 385.

- **361 Assessment of Athletic Injuries**
  (4 credit hours)
  Second course in a series of three to cover the principles of athletic training.
  Prerequisite: ATR 261, 303, 262, 284, 285, 286.

- **384 Lower Body Assessment Skills**
  (1 to 15 credit hours)
  Supervised field work for junior students seeking certification or a concentration in a specific area.
  Topics vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

- **385 Upper Body Assessment Skills**
  (3 credit hours)
  This is the fifth practicum in a series of nine to meet the competencies of athletic training.
  The emphasis will be on evaluation of injuries/conditions of the upper body.
  Prerequisite: ATR 261, HPR 250, 251.

- **386 Therapeutic Modalities Skills**
  (3 credit hours)
  This is the sixth practicum in a series of nine to meet the competencies of athletic training.
  The emphasis will be on treatment protocols for injuries/conditions to the physically active.
  Limited to students in the ATR program.
  Prerequisite: ATR 261, 303, 361, 384, 385.

- **460 Advanced Athletic Training**
  (4 credit hours)
  Advanced problems found in the identification of injuries related to athletic participation.
  Prerequisite: ATR 261, 262, 303, 360, 361, 461.

- **461 Organization and Administration of Athletic Training**
  (4 credit hours)
  Combines the knowledge of organization and administration and how it applies to the profession of athletic training.
  Prerequisite: ATR 261.

- **484 Clinical & Surgical Rotation**
  (1 to 15 credit hours)
  Supervised field work for senior students seeking certification or a concentration in a specific area.
  Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

- **485 Advanced Rehabilitation Skills**
  (3 credit hours)
  This is the seventh practicum in a series of nine to meet the competencies of athletic training.
  The emphasis will be on advanced rehabilitation programs.
  Limited to students in the ATR program.
  Prerequisite: ATR 261, 285, 303, 361, 384 and 385.

- **486 Medical Condition in Athletic Training**
  (3 credit hours)
  This is the ninth practicum in a series of nine to meet the competencies of athletic training.
  The emphasis will be on case studies for injuries/conditions to the physically active.
  Limited to students in the ATR program.
  Prerequisite: ATR 261, 303, 361, 360, 262, 461.

- **487 Athletic Training Internship**
  (12 credit hours)
  A culminating internship for student athletic trainers in one of the following settings: high school, college, sports medicine clinic, industrial, Olympic, or professional sports.
  The student can schedule this internship any quarter with the director of Athletic Training.
  Prerequisite: All ATR courses (ATR 261–ATR 486).
Aviation/AVI

100 Aviation Career Institute (2 credit hours)
This course is designed for students attending the WSU Summer Aviation Career Institute. Students will explore over 50 careers in aerospace: from airline pilot to aircraft engineer, from air traffic controller to avionics technician. Limited to 10th, 11th, and 12th grade students enrolled in WSU’s Summer Aviation Career Institute. Graded pass/unsatisfactory.

201 Private Pilot Ground Education (4 credit hours)
Forty hours of ground instruction covering radio navigation, meteorology, FAA regulations, communications, aircraft construction, and performance data to meet requirements of private pilot’s written examination.

202 Private Pilot Flight Training I (3 credit hours)
Eighteen hours of flight training and related lectures including primary flight maneuvers and cross country flying. Includes a one-hour per week ground school seminar at the airport. Graded pass/unsatisfactory.

203 Private Pilot Flight Training II (2 credit hours)
Seventeen hours of flight training plus a one-hour flight check. Meets requirements for private pilot’s certificate. Graded pass/unsatisfactory.

301 Meteorology in Aviation (3 credit hours)
Meteorology theory and pilot services available for the instrument-rated pilot. Meets FAA requirements.

302 Instrument Ground Training (4 credit hours)
Altitude instrument interpretation and aircraft performance, approaches and procedures, and IFR regulations and flight training. Meets FAA requirements. Prerequisite: AVI 301.

303 Instrument Flight Training I (2 credit hours)
Four hours simulator and 13 hours flight training with 17 hours of related instruction. Meets FAA requirements. Laboratory fee required. Graded pass/unsatisfactory.

304 Instrument Flight Training II (2 credit hours)
Two hours simulator and 16 hours flight training with 18 hours of related instruction and a one-hour FAA exam. Meets FAA requirements. Laboratory fee required. Graded pass/unsatisfactory.

488 Independent Study (1 to 6 credit hours)
Independent reading, writing, flying, and/or reporting in areas related to aviation. Topics vary. Departmental permission required.

Biological Sciences/BIO

105 Introductory Biology: Food (4 credit hours)
Biological principles applied to the nature of food, its production, and use in the human body. Topics include molecular biology, photosynthesis, respiration, digestion, nutrition, agricultural ecosystems, and issues of feeding a rapidly growing human population. Three hours lecture, two hours lab.

106 Introductory Biology: Biodiversity (4 credit hours)
Biological principles and processes applied to the origin, interaction, and extinction of species. Laboratory and lab topics include paleobiology, speciation, macroevolution, adaptive radiation, symbiosis, biogeography, and the scientific management of modern biological resources. Three hours lecture, two hours lab.

107 Introductory Biology: Disease (4 credit hours)
Biological principles applied to the study of disease: causes, controls, and natural defense against infection. Topics include microscopy, pathology, antibiotics, immunology, and epidemiology with historical perspectives and an emphasis on investigative techniques. Three hours lecture, two hours lab.

112 Principles of Biology: Cell Biology and Genetics (4 credit hours)
Introduction to basic concepts of biology. Topics include genetics and the molecular and cellular basis for the unity of life. Three hours lecture, two hours lab. Prerequisite: Math placement Level 4 or higher.

114 Organismic Biology (4 credit hours)
Introduction to the structure and function of plants and animals. Three hours lecture, two hours lab. Prerequisite: BIO 112.

115 Principles of Biology—Diversity and Ecology (4 credit hours)
Introduction to basic concepts of biology. Topics include evolution, ecology, and the diversity of life. Three hours lecture, two hours lab. Prerequisite: BIO 112.

119 Principles of Biology: Honors Recitation (1 credit hour)
(112, 114, 115) Recitation/discussion section to review basic concepts developed in the laboratory. Co-registration in lecture and honors laboratory required.

194 Introduction to Exercise Biology (1 credit hour)
An introduction to the research literature and to the fields of study within the discipline of exercise science.

199 Introduction to Biological Investigation (1 credit hour)
For individually motivated students at the introductory Level who wish to pursue some particular project under faculty supervision. Graded pass/unsatisfactory.
201 Topics in Biology (1 to 5 credit hours)
Selected biological topics of current interest.

210 Molecular Biology (4 credit hours)
Emphasizes understanding of the chemical and physical aspects of molecular interactions and the flow of genetic information from DNA to protein. Prerequisite: BIO 112, 114, 115, CHM 121, 122, 123.

211 Molecular Genetics (4 credit hours)
Emphasizes understanding of the control of gene expression in both prokaryotes and eukaryotes. Includes study of chromosome structure, replication, recombination, and repair.

212 Cell Biology (4 credit hours)
Emphasizes eukaryotic cell structure and function, including energetics and involvement of various organelles. Prerequisite: BIO 112, 114, 115, 211, CHM 121, 122, 123.

252 Microbiology (5 credit hours)
Study of morphology, cultivation, and biochemical activities of microorganisms. Survey of viruses, bacteria, blue-green algae, fungi, and their diversity in natural environments. Three hours lecture, four hours lab. Prerequisite: BIO 112, 115, CHM 123.

253 Biology of Lower Plants (5 credit hours)
Study of morphology; taxonomy; and ecology of algae, fungi, and bryophytes. Emphasis on growth and developmental patterns, modes of reproduction, importance to humans and to ecosystems, diversity, distribution, and phylogenetic relationships. Two hours lecture, six hours lab. Prerequisite: BIO 112, 115.

254 Biology of Vascular Plants (5 credit hours)
Study of form, development, reproduction, and life histories of vascular plants. Survey of representative plant families emphasizing phylogenetic relationships, distribution, and vegetational types in natural habitats. Two hours lecture, six hours lab. Prerequisite: BIO 112, 115.

255 Biology of Invertebrates (5 credit hours)
Morphology, development, physiology, and evolutionary relationships of major invertebrate groups. Three hours lecture, four hours lab. Prerequisite: BIO 112, 115.

256 Biology of Vertebrates (5 credit hours)
Introduction to the anatomy and evolutionary history of vertebrate animals. Three hours lecture, four hours lab. Prerequisite: BIO 112, BIO 114, BIO 115.

271 Introduction to Bioinformatics (4 credit hours)
Tools-oriented approach in bioinformatics emphasizing DNA data structure, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and use of web-based bioinformatic tools. Prerequisite: BIO 112, CS 240 (or equivalents).

278 Anatomy and Physiology I (4.5 credit hours)
Lecture topics in human anatomy and physiology, including tissues; skeletal, muscular, nervous, and endocrine systems. Laboratory features cat dissection and physiological techniques complementary to the lecture topics. Prerequisite: BIO 112.

279 Anatomy and Physiology II (4.5 credit hours)
Lecture topics in human anatomy and physiology including the cardiovascular, respiratory, digestive, excretory, and reproductive systems. Laboratory features cat dissection and physiological techniques complementary to the lecture topics. Prerequisite: BIO 278.

294 Introduction to Clinical Lab Science (1 credit hour)
Familiarizes students with the medical-technology profession and the educational programs required to become a medical technologist.

302 Genetics (4 credit hours)
The nature and function of genetic material with emphasis on transmission and population genetics. Exceptions to and extensions of Mendelian analysis, gene mapping, quantitative genetics, and the change of gene frequencies with time. Three hours lecture, one hour recitation. Prerequisite: BIO 210 & MTH 130 or consent of instructor.

303 Vertebrate Histology (5 credit hours)
Study of structure/function relationships in vertebrate tissues, organs, and organ systems. Three hours lecture, four hours lab. Prerequisite: At least one 200 or above Level biology course, CHM 211, or permission of instructor.

304 Plant Physiology (5 credit hours)
Special aspects of plant physiology that set plants apart from other organisms. Laboratory introduces independent research concerning plant nutrition and bud development. Three hours lecture, four hours lab. Prerequisite: BIO 253 or 254, CHM 123.

305 Animal Physiology (3 credit hours)
Basic adaptive mechanisms and their coordination in the activities of the metazoa. Prerequisite: BIO 112, 115.

306 Ecology (5 credit hours)
Introduction to ecology; emphasis on the organism's interaction with the environment. Three hours lecture, four hours lab. Prerequisite: BIO 112, 115.

310 Issues in Science (3 credit hours)
(Also listed as CHM 310, PHY 310, MTH 310, and GL 310.) A writing-intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.
345 Concepts in Biology (4.5 credit hours)
An accelerated treatment of fundamental concepts and applications of biology for Elementary Education majors. Topics and activities organized specifically to prepare students for science teaching at levels K–8. For elementary education majors only. Integrated lecture/lab. Prerequisite: PHY 245, CHM 245.

346 Concepts in Biology II (4.5 credit hours)
Concepts and applications of biology formatted to model implications of state and national pedagogical standards, aimed specifically at preparing students for biology teaching in Grades 4–9. For Middle Childhood Education majors only. Integrated lecture/lab. Prerequisite: BIO 345.

352 Human Biomechanics (4 credit hours)
An analysis of muscular interrelationships in basic body movements and an analysis of principles of mechanics as they relate to fundamental and complex motor skills. Prerequisite: BIO 278 and 279 or ANT 201 and 202 or HPR 250 and 251.

353 Exercise Physiology I (4 credit hours)
Physiological adjustments and changes occurring in the human organism as a result of homeostatic challenges. Prerequisite: BIO 279 or equivalent.

354 Exercise Physiology II (4 credit hours)
Exercise physiology as it is applied to fitness and performance. Programs that distinguish between health-related fitness and physiology of maximal performance will be discussed. Prerequisite: BIO 279, 353.

360 Exercise Prescription (4 credit hours)
Study of exercise program design and implementation involving apparently healthy individuals, those at higher risk, and those with controlled disease. Emphasis is placed on cardiorespiratory and neuromuscular exercise prescription and implementation. Prerequisite: BIO 353, BIO 456.

399 Undergraduate Teaching Assistant
(1 to 3 credit hours)
Supervised experience in preparing materials and apparatus for laboratory sessions in the biological sciences. Students will work with course staff on a regularly scheduled basis to develop the practices and skills associated with laboratory teaching responsibility and assist course staff in teaching the laboratory. May be repeated for up to three credits. Graded pass/unsatisfactory. Prerequisite: Junior standing and GPA of 3.0.

401 Topics in Modern Biology (1 to 5 credit hours)
Advanced topics in modern biology of current interest. Topics vary.

403 Developmental Biology (5 credit hours)
Describes underlying processes that initiate, in plants and animals, the development of tissues and the whole organism. Laboratory exercises highlight developmental processes. Three hours lecture, four hours lab. Prerequisite: BIO 115 and 212.

404 Basic Electron Microscopy (6 credit hours)
Basic theory and practical experience in transmission electron microscopic technology. Animal, plant, and particulate specimens are processed in the laboratory. Prerequisite: BIO 303 or BIO 212, completion of chemistry requirement, and instructor permission required.

406 Evolutionary Biology (3 credit hours)
Historical development and current understanding of the principles of evolution. Prerequisite: BIO 112, 114, 115, 212, junior standing.

407 Wetlands Biology (5 credit hours)
Ecological investigation of wetlands of United States, with emphasis on Midwest. Primarily field oriented and some lecture. Covers soils, vegetation, hydrology, conservation, and restoration. Requires two weekend trips and written report. Prerequisite: Junior or Senior standing; CHM 121. One of the following: BIO 306, BIO 254, GL 450, BIO 401, BIO 411 or relevant field experience.

408 Writing in The Biological Sciences
(3 credit hours)
Surveys grammatical and stylistic aspects of scientific writing and teaches students how to organize, write, and submit a manuscript for publication in a biological journal. Writing grants will also be discussed. Prerequisite: BIO 112, 115.

411 The Aquatic Environment (6 credit hours)
Introduction to limnology. Field and laboratory course concerned with physical, chemical, and biological factors that characterize natural waters.

412 Aquatic Communities (6 credit hours)
A survey of animal and plant species occurring in local aquatic habitats. Lectures cover structural and functional aspects of major fresh-water communities.

413 Biological Problems of Water Pollution (5 credit hours)
Introduction to biological aspects of water pollution. Lectures, discussions, laboratories, and field trips on various types of pollutants and their impact on aquatic life.

415 Introduction to Toxicology (4 credit hours)
Covers toxicological problems encountered in the field of environmental health. Emphasis on monitoring, control, and regulation of toxic substances in air and water and in industrial environments. Completion of a course in physiology and in organic chemistry required. Prerequisite: A course in Physiology and Organic Chemistry.
420 Designing Biological Experiments (3 credit hours)
Principles of effective sampling design for biological experiments. Reconciling the peculiarities of biological data with the assumptions of statistical methods. Lectures and problem sets. Prerequisite: Two biology courses at 300 or above level, one course in statistics.

421 Human Genetics for Health Professionals (3 credit hours)
Describes mechanism of inheritance and genetic diseases so that health professionals can recognize possible genetic abnormalities and make appropriate referrals. Participate in genetic counseling, and consider ethical and legal implications of the “new genetics.” For nonmajors only. Prerequisite: BIO 112 (or equivalent) or graduate standing.

425 Microbial Ecology (5 credit hours)
Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and environments. Includes field studies. Prerequisite: CHM 123.

426 Human Genetics (4 credit hours)
Nature of human genetic traits, methods of analysis of inheritance. Prerequisite: BIO 302.

429 Plant Anatomy (5 credit hours)
Examines the internal structure of vascular plants. Special emphasis is placed on structure-function relations and their adaptive significance. Prerequisite: BIO 112, 115.

442 Advanced Molecular Biology (3 credit hours)
Topics emphasizing gene organization and genome organization will center on the molecular anatomy, expression, and regulation of eukaryotic genes. Includes a thorough discussion of recombinant DNA technology. Prerequisite: BIO 210, 211, 212, CHM 211, 212, 213.

455 Plant Systematics (3 credit hours)
A survey of topics and techniques encountered in studies of the relationships and evolution of the higher plants, emphasizing the flowering plants. Prerequisite: BIO 254; senior standing or consent of the instructor.

456 Measurement & Evaluation in Exercise Science (4 credit hours)
The identification, administration, and evaluation of physiological and motor performance assessments. Prerequisite: BIO 221 & 353 (or taken concurrently).

460 Population Genetics (3 credit hours)
Examination of the causes of genetic differences within and among species and how molecular biology techniques can be used to identify these differences. Emphasizes human genetics, anthropology, ecology, and conservation implications. Prerequisite: BIO 210, 211, 212, 302.

461 Molecular Evolution (3 credit hours)
Studies the evolutionary history of organisms by interpreting their genomes as historical documents. Focuses on the origins of human traits and diseases, phylogenetic reconstruction, and systematics. Prerequisite: BIO 210, 211, 212, 302.

464 Microbiology of Food (3 credit hours)
Principles of food microbiology, preservation, and handling. Major organisms of food poisoning and means of control are considered. Prerequisite: A course in microbiology.

466 Internship in Exercise Science (4 to 9 credit hours)
Designed to involve exercise science students in a culminating practicum experience in their field of study during their senior year. The experience involves work site training or a research project. Prerequisite: BIO 353, BIO 360, BIO 456, BIO 401.

471 Algorithms for Bioinformatics (4 credit hours)
Theory-oriented approach to application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced for solving specific computational problems in molecular genetics. Prerequisite: BIO 271, CS 400, BIO 210 and 211, CHM 213.

473 Biology of Selected Marine Environments (5 credit hours)
Biological aspects of marine environments. Sampling and observation of living marine specimens during week-long trip to marine laboratory.

476 Human Parasitology (2 credit hours)
Study of aspects of parasitology including biology, epidemiology, diagnosis, and identification of parasites. Divided into three major categories: protozoology, helminthology, and arthropodology. Prerequisite: Junior standing or consent of instructor.

480 Biology of Fishes (3 credit hours)
An introduction to the evolution, ecology, and distribution of freshwater and marine fishes. Prerequisite: BIO 256. 30 or permission of the instructor. Junior standing is required.

482 Exercise Sciences Senior Seminar (1 credit hour)
A culminating and in-depth synthesis of the research literature pertaining to the field of exercise science. Prerequisite: Completion of area B in exercise science track.

484 Biogeography (3 credit hours)
(Also listed as GEO 484.) Introduction to the factors affecting the distribution of plants and animals. Prerequisite: BIO 112, 115 and BIO 306.

488 Independent Reading (1 credit hour)
Graded pass/unsatisfactory. Prerequisite: Junior standing required.
Course Descriptions

490 Biology Internship (9 to 12 credit hours)
Off-campus experience in cooperating scientific agency or industrial organization. Reports and specific assignments determined in consultation with faculty advisor and supervising professionals. Prerequisite: Junior standing in Biological Sciences.

492 Senior Seminar (2 credit hours)
Literature survey, discussion, and oral presentations of selected topics in the biological sciences. Course requires written presentations when offered for two credits and one recitation.

Biochemistry & Molecular Biology/BMB

210 Introduction to Biochemistry and Nutrition (4 credit hours)
Current topics in biochemistry, molecular biology, and nutrition for nonscience majors. Includes the relationship between diet and disease, mechanisms of cancer induction, hereditary and infectious disease, and applications of biotechnology that impact medicine and our daily life. No previous background in science is required.

250 Human Nutrition (4 credit hours)
Nutrition as an integrated science emphasizing biochemical and physiological principles. Topics include nutritional energetics, specific nutrients, and nutrition and physiology. Relation of basic concepts to clinical situations and to nutritional management of specific disease conditions. Prerequisite: BIO 105, CHM 102, or equivalent.

421 Biochemistry I (4 credit hours)
Chemistry of biological compounds and introduction to enzymes. Prerequisite: Organic Chemistry or consent of instructor.

423 Biochemistry II (4 credit hours)
Intermediary metabolism of carbohydrates, proteins, nucleic acids, and lipids. Prerequisite: BMB (BCH) 421.

427 Human Biochemistry (4 credit hours)
Metabolism of hormones and amino acids, integration of metabolism, and aspects of human biochemistry including some metabolic disorders and nutrition. Prerequisite: BMB 421/423 or permission of instructor.

431 Clinical Biochemistry (4.5 credit hours)
Application of biochemical knowledge to a thorough understanding of disease state. This course builds on material presented in BMB 421 and BMB 423. 3 lectures.

451 Recent Developments in Biochemistry (3 credit hours)
Detailed consideration of major research developments in biochemistry within the past several months. Discussion will deal not only with the appropriate research papers, but also with the background information such articles leave out. Prerequisite: BMB (BCH) 421, or consent of instructor.

495 Honors Research in Biochemistry (1 to 5 credit hours)
Laboratory experience in biochemistry. May be taken for letter grade or pass/unsatisfactory. Prerequisite: General chemistry and biology: BMB (BCH) 421.

499 Undergraduate Research (1 to 4 credit hours)
May be taken for letter grade or pass/unsatisfactory.

Biomedical Engineering/BME

155 Adaptive Computer Technology (4 credit hours)
Presented for physically impaired students for the purpose of familiarizing them with adaptive computer usage. It is structured to teach necessary skills related to each student's rehabilitative needs.

195 Fundamentals of Biomedical Engineering (2 credit hours)
This is an introduction to the study of Biomedical Engineering. The broad areas of BME are presented through lecture and demonstration. Department faculty provides interesting insights in their areas of expertise.

199 Special Topics in BME (1 to 4 credit hours)
Special topics in Biomedical Engineering are offered periodically on subjects that are of current interest. In some cases a student may take this as an individual study course, the subject matter will vary from year to year. Check with the department on type of courses currently being offered.

419 Biofluid Mechanics (3 credit hours)
Derivation and use of the basic conservation laws underlying the fluid mechanical behavior of the cardiopulmonary system. Includes applications to the flows of blood, pulmonary air, and extracorporeal fluids. Prerequisite: ME 212, 315, MTH 233.

420 Biomedical Heat and Mass Transfer (3 credit hours)
Introduction to transport phenomena in biomedical engineering and physiological systems. Energy and mass balances together with constitutive and empirical relationships are used in quantifying such topics as body heat loss by the various modes, diffusion mass transport, and heat/mass transport in applicable technological systems. Prerequisite: BME 419.
422 Engineering Biophysics (4 credit hours)
Application of mathematical and engineering techniques toward describing biophysical systems. Topics include cellular transport, electrical properties of membranes, and biophysics of muscle contraction. Prerequisite: EE 321.

428 Biomechanics and Biothermodynamics (3 credit hours)
Application of solid mechanics and thermodynamics toward describing physiological systems. Topics include mechanics of the skeletal, cardiac, and pulmonary systems, and analysis of the biothermal regulation system. Prerequisite: ME 212, ME 315.

439 Biotransport and Artificial Organs (4 credit hours)
Introduction to transport processes vital to the design of medical devices for artificial intervention into living systems. Topics include circulatory system dynamics, mathematical modeling of physiological systems, membrane transport, and biological/artificial organ design. Prerequisite: BME 420.

440 Biomaterials (4 credit hours)
Application of properties of materials and solid mechanics to problems and design of medical implants, external prostheses, and living tissues. Topics include mechanical properties of biologic and synthetic materials, stress-strain analysis, viscoelasticity, tissue response to implants and vice versa, and implant materials for interfacing with hard and soft tissues and blood. Prerequisite: ME 213, EE 321.

460 Biomedical Electronics (5 credit hours)
Employment of modern electronic devices and circuits as applied to instrumentation and data collection associated with biomedical applications and related fields. The course includes bioelectronic laboratory component, which emphasizes a hands-on active learning. Prerequisite: EE 301, EE 302.

461 Bioinstrumentation I (4 credit hours)
Principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement, imaging modalities, systems, and electrical safety. Prerequisite: BIO 279, EE 321, BME 460.

462 Bioinstrumentation II (4 credit hours)
Continuation of principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement and electrical stimulation, biological signal acquisition and processing, various medical imaging modalities/systems, and electrical safety. Prerequisite: BME 461.

463 Biomedical Computers I (2 credit hours)
Digital computer applications in biomedical related fields. Use of software to solve biomedical problems and display the result. Prerequisite: CS 220, EE 301.

464 Microprocessors for Biomedical Engineering (4 credit hours)
Principles, hardware structure, and programming techniques of microprocessors. Applications of microprocessor-based systems in hospitals, rehabilitation engineering, and medical research. Prerequisite: BME 460.

470 Photon Radiation (4 credit hours)
Basic introduction to generation, effects, and detection of ionizing radiation and its application to medicine. Successful completion of this course entitles students to be registered users of radioactive isotopes. Prerequisite: PHY 242, 244, BIO 279.

471 Medical Imaging (4 credit hours)
Overview of the various methods used in generating images in medicine. Basic principles of the image-forming process and the physical properties of the resultant image are discussed. Prerequisite: BME 470.

491 Biomedical Engineering Design I (3 credit hours)
Individualized design projects allowing students to make use of design and analytical skills. Prerequisite: BME 420; BME 464.

492 BME Design II (1 credit hour)
Individualized design projects allowing students to use design and analytical skills.

493 BME Design III (1 credit hour)
Individualized design projects allowing students to use design and analytical skills. Prerequisite: BME 492; concurrent enrollment in BME 403 is required.

499 Special Problems in Biomedical Engineering (1 to 5 credit hours)
Special problems in advanced engineering topics. Topics vary.

Business/BUS

100 Horizons in Business (4 credit hours)
Covers the range of activities, challenges, opportunities, and career paths in the world of U.S. and global business. Includes an overview and introduction to such diverse areas as the economic setting, international business, the structure of business, management of American business, human resources, marketing, information systems, accounting, finance, and ethics in business.
Computer Engineering/CEG

210 PC Networking I (4 credit hours)
Introduction to PC networking hardware, concepts, and technologies. Focus is on LAN administration, and hardware and software configuration using in class hands-on exercises. Internet resources, from the PC network perspective, are utilized. CS and CEG majors may not take this course for credit. Prerequisite: CS 205.

211 PC Networking II (4 credit hours)
Focuses on server installation, administration, multiple protocol integration, systems maintenance, and troubleshooting. Includes hands-on class and laboratory assignments. CS and CEG majors may not take this course for credit. Prerequisite: CEG 210.

220 Introduction to “C” Programming for Engineers (4 credit hours)
Introduction to digital computers and computer programming with C language. Algorithms and techniques useful to engineers. Data representation, debugging, and program verification. Programming assignments include complex arithmetic. CS and CEG majors may not take this course for credit. Prerequisite: CEG 210.

221 Advanced “C” for Engineers (4 credit hours)
Study and usage of the C programming language beyond what is taught in the introductory course. CEG 220, in the solution of engineering oriented problems. Prerequisite: CEG (CS) 220.

255 Introduction to The Design of Information Technology Systems (4 credit hours)
Introduction to the design of information systems comprising modern technologies such as SQL database programming, networks, and distributed computing with CORBA, electronic and hypertext (HTML) documents, and multimedia. Prerequisite: CS 241.

260 Digital Computer Hardware/Switching Circuits (4 credit hours)
(Also listed as EE 260.) Topics include switching algebra and switching functions, logic design of combinational and sequential circuits using TTL, combinational logic design with MSI and LSI, busing, storage elements, and instrumentation. Three hours lecture, two hours lab. Prerequisite: CS 142 or 220 or 240 or EGR 153.

305 Fundamentals of Expert Systems (4 credit hours)
Definitions of AI, discussion of the different technologies that comprise the field, introduction to the fundamental concepts and methodologies of expert systems, and hands-on experience developing small expert system applications. CS and CEG majors may not take this course for credit. Prerequisite: Any of the following: CS 141, CS 220, CS 240, EGR 153.

320 Computer Organization and Assembly Language Programming (4 credit hours)
Terminology and understanding of functional organizations and sequential operation of a digital computer. Program structure, and machine and assembly language topics including addressing, stacks, argument passing, arithmetic operations, traps, and input/output. Macros, modularization, linkers, and debuggers are used. Three hours lecture, two hours lab. Prerequisite: CS 242, CEG 260.

330 Object-Oriented Programming in C++ (4 credit hours)
Introduction to the object-oriented programming and the C++ language. Topics include functions, pointers, structures, classes, function/operator overloading, inheritance and virtual functions, template, exceptions, and file input and output. Prerequisite: CEG 220, or CS 240 or equivalent.

360 Digital System Design (4 credit hours)
(Also listed as EE 451.) Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the design of digital systems. Three hours lecture, two hours lab. Prerequisite: CEG 260.

399 Selected Topics (1 to 5 credit hours)
Selected topics in computer engineering.

402 Introduction to Computer Communication Design (4 credit hours)
Survey of modern digital communications techniques. Focus on serial transmission over public communications channels. Topics include information content and coding, asynchronous and synchronous formats, concentrating and multiplexing, channel properties, modulation techniques, common carrier services, error sources and control, regulatory policies, and networks and their analyses. Students must design both hardware and software components of computer communications systems. Three hours lecture, two hours lab. Prerequisite: CS 400.

411 Microprocessor-Based System Design (4 credit hours)
Introduction to the design and development of software and computer-interfacing hardware for effective use of microprocessors in process control, data collecting, and other special-purpose computing systems. Software topics include assembly language programming, input/output, interrupts, direct memory access, and timing problems. For nonmajors only. Prerequisite: CEG 260/EE 351, EE 301, EE 302.
Course Descriptions

416 Matrix Computations (4 credit hours)
(Also listed as MTH 416.) Survey of numerical methods in linear algebra emphasizing practice with high-level computer tools. Topics include Gaussian elimination, LU decomposition, numerical eigenvalue problems, QR factorization, least squares, singular value decompositions, and iterative methods. Prerequisite: MTH 253 or 355; and CS 142 or 241.

419 Introduction to Fuzzy Logic Control (4 credit hours)
(Also listed as EE 419.) Foundations and philosophy of fuzzy logic and applications to control theory. Relationship between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of applications. Three hours lecture, two hours lab. Prerequisite: EE 413 and 414.

420 Computer Architecture (4 credit hours)
Introduction to computer architecture, computer system analysis and design, performance and cost, instruction set architecture, processor implementation techniques, pipelining, memory-hierarchy design, input/output, and contemporary architectures. Prerequisite: CEG 320, CEG 360.

421 Microcomputer Design Projects (4 credit hours)
In-depth study of the design and use of microcomputer systems. Computer organization and interface facilities are examined. Hardware/software projects are required to develop techniques for hardware and software design of open-ended projects. Three hours lecture, two hours lab. Prerequisite: CEG 320, 360.

425 VHISC Hardware Description Language (VHDL) (4 credit hours)
VHDL is an industry-standard language used to describe hardware from the abstract to the concrete level. VHDL is rapidly being embraced as the universal communication medium of design. Prerequisite: CEG 360 and CS 400.

428 Linear Optical Systems for Computer Engineers (4 credit hours)
Introduction to linear optical systems, transformation properties of optical systems, correlation, convolution, diffraction, applications related to optical computers, such as beam steering for optical interconnection and parallel optical algorithm for pattern search, and neural network. Prerequisite: EE 321, EE 322.

429 Internet Security (4 credit hours)
Authentication, address spoofing, hijacking, SYN floods, smurfing, sniffing, routing tricks, and privacy of data en-route. Buffer overruns and other exploitations of software development errors. Hardening of operating systems. Intrusion detection. Firewalls. Ethics. Prerequisite: CEG 402. Must have senior standing or be a first year graduate student to enroll. Prerequisite: CEG 402.

433 Operating Systems (4 credit hours)
Management of resources in multiuser computer systems. Emphasizes problems of file-system design, process scheduling, memory allocation, protection, and tools needed for solutions. Course projects use C/C++ language and include designing portions of an operating system. Prerequisite: CEG 320, CS 400.

434 Concurrent Software Design (4 credit hours)
Classical problems of synchronization and concurrency and their solutions are examined through course projects and through readings on operating-system design. Prerequisite: CEG 433.

435 Distributed Computing and Systems (4 credit hours)
Study of process coordination, client-server computing, network and distributed operating systems, network and distributed file systems, concurrency control, recovery of distributed transactions, and fault-tolerant computing. Prerequisite: CEG 434 or equivalent.

453 Design of Computing Systems (4 credit hours)
Laboratory projects combine engineering hardware and computer-science software concepts in the design and implementation of small, special-purpose computer systems. Three hours lecture, two hours lab. Prerequisite: CEG 320, 360.

454 VLSI Design (4 credit hours)
(Also listed as EE 454.) Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI. Prerequisite: EE 431, EE 432 and EE 451.

456 Introduction to Robotics (4 credit hours)
(Also listed as EE 456, ME 456.) An introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control. Prerequisite: Senior standing in college of Engineering and Computer Science and MTH 253; Proficiency in Pascal, C, or Fortran Programming.

458 Digital Integrated Circuit Design with PLDS and FPGAS (4 credit hours)
(Also listed as EE 458.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the laboratory portion of the course. Prerequisite: CEG 360 or EE 451.
459 Integrated Circuit Design Synthesis with VHDL (4 credit hours)
(Also listed as EE 459.) Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation, and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) will be used in the laboratory portion of the course. Prerequisite: CS 220, C Programming or equivalent and CEG 260.

460 Introduction to Software Engineering (4 credit hours)
Concepts of software engineering. Analysis, design, and implementation of software engineering concepts that comprise structured programming and design. Case studies serve as examples illustrating the software life-cycle model. Three hours lecture, two hours lab. Prerequisite: CS 400.

461 Object-Oriented Programming & Design (4 credit hours)
Study of object-oriented design and programming. Programming topics emphasize the core concepts of encapsulation, inheritance, polymorphism, and dynamic binding. Additional topics include class organization, software maintenance, and design of reusable components. Prerequisite: CEG 460.

463 Personal Software Development Process (4 credit hours)
Discusses software development as it relates to the individual, software process measurement, design and code reviews, software quality measurement, design, and design verification. Each student will participate in the development of a software project. Three hours lecture, two hours lab. Prerequisite: CEG 460 or equivalent.

465 Interactive Systems Modeling, Analysis and Design (4 credit hours)
(Also listed as HFE 465.) Provide students experience in interactive real-time simulation, design, implementation, and evaluation of interfaces to simulations. The relevant topics are explored through application in supervisory control of complex, dynamic systems. Prerequisite: CEG 220 or any one of the following: CEG 221, CS 241, CS 242 or instructor permission.

468 Managing The Software Development Process (4 credit hours)
Discusses software development processes, models, and techniques necessary to successfully develop large-scale software. Presents the Capability Maturity Model (CMM). Each student will participate in the development of a software project. Three hours lecture, two hours lab. Prerequisite: CEG 460.

476 Computer Graphics (4 credit hours)
(Also listed as MTH 476.) Contents: raster graphics algorithms, geometric primitives and their attributes, clipping, antialiasing, geometric transformations, structures and hierarchical models, input devices, and interactive techniques. Students develop interrelated programs to design a three-dimensional hierarchical model, manipulate, and view it. Prerequisite: CS 400, MTH 253 or 255.

477 Computer Graphics II (4 credit hours)
(Also listed as MTH 477.) Continuation of CEG 476. Covers surface rendering, hidden line and surface removal, illumination models, texture and mapping, color models, geometric modeling, and graphical interface design. Students develop programs and a final project. Three hours lecture, two hours lab. Prerequisite: CEG 476 or MTH 476.

478 Coding Theory (3 credit hours)
(Also listed as MTH 456, EE 478.) Introduction to the essentials of error-correcting codes and the study of methods for efficient and accurate transfer of information. Topics to be covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes. Prerequisite: MTH 253 or MTH 355 (or equivalent).

498 Design Experience (4 credit hours)
A summative computer engineering team design project building upon previous engineering, science, mathematics, and communication course work focusing on professional practice in computer science and engineering. Must enroll in two consecutive terms. Prerequisite: Completion of a course in one of the four CEG elective packages.

499 Selected Topics (1 to 5 credit hours)
Topics vary. May be taken for letter grade or pass/unsatisfactory.

Chinese/CHI

102 First-Year Chinese (4 credit hours)
Study of the vocabulary and structure of the Chinese language; practice in conversation, reading, and writing. Prerequisite: CHI 101 or permission of instructor.

111 Essentials of Chinese (4 credit hours)
Introduction to Chinese with emphasis on speaking the language.

201 Second Year Chinese (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: CHI 103 or permission of instructor.
202 Second Year Chinese (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: CHI 201 or permission of instructor.

311 Chinese Conversation (4 credit hours)
This course will pursue a balance of the four basic language skills: Reading, writing, listening, and speaking in Chinese with a focus on conversation. Prerequisite: Chinese 203.

312 Chinese Conversation (4 credit hours)
This course is a continuation of Chinese 311 pursuing a balance of the four basic language skills: reading, writing, listening, and speaking in Chinese with a focus on conversation. Prerequisite: Chinese 311.

Chemistry/CHM

101 Introduction to Chemistry (4.5 credit hours)
Historical approach to the fundamentals of chemistry: composition and structure, properties and transformations of matter. Three hours lecture, three hours lab.

102 Elementary Organic Chemistry with Applications (4.5 credit hours)
An elementary discussion of the structure of hydrocarbons, organic functional groups, and a few selected reactions. Three hours lecture, three hours lab. Prerequisite: CHM 101 or 121.

105 Chemistry of Our World: Living Things (4 credit hours)
Examination of the principles of covalent bonding, structures, and reactions of molecules important to living things, with attention to the technological, regulatory, and social complexities of problems related to them. Three hours lecture, two hours lab.

106 Chemistry of Our World: Materials (4 credit hours)
Examination of the bonding of metals and nonmetals to explain the nature of familiar materials of industrial importance. Attention to the risk/benefit implications of these materials and technologies for consumers. Three hours lecture, three hours lab.

107 Chemistry of Our World: Energy and The Environment (4 credit hours)
Examination of gaseous and liquid states and thermochemistry as a basis for understanding air and water quality and fossil and nuclear fuels. Attention to the chemistry of the solar system. Three hours lecture, two hours lab.

121 Submicroscopic Chemistry (5 credit hours)
Structure and properties of atoms and molecules and the macroscopic consequences thereof. Three hours lecture, three hours lab, one hour recitation. Prerequisite: High school chemistry or CHM 101, and MTH 127 or Level 4 on Math Placement Test.

122 Macroscopic Chemistry (5 credit hours)
Physical and chemical behavior of large collections of atoms and molecules. Three hours lecture, three hours lab, one hour recitation. Prerequisite: CHM 121.

123 Reaction Dynamics (5 credit hours)
Quantitative aspects of chemistry: emphasis on computational and experimental estimation of the composition of chemical systems. Three hours lecture, three hours lab, one hour recitation. Prerequisite: CHM 122; MTH 128 or 129 or Level 5 on Math Placement Test.

191 Modern General Chemistry I: Organic (5 credit hours)
Organic chemistry with its applications is presented with fundamental chemical concepts introduced as they are necessary to explain the subject. Prerequisite: High school chemistry or CHM 101, and MTH 127 or Level 4 on Math Placement Test.

192 Modern General Chemistry II: Materials (5 credit hours)
Useful materials are presented from a chemical point of view with fundamental concepts introduced as needed. Prerequisite: CHM 191.

193 Modern General Chemistry. III: Energy (5 credit hours)
The relationships between energy and matter are explored with fundamental chemical concepts introduced as needed. Prerequisite: CHM 192 and MTH 128 or 129 or Level 5 on Math Placement Test.

211 Organic Chemistry I (4 credit hours)
Principles, theories, and applications of the chemistry of carbon compounds. Three hours lecture, one hour recitation. Prerequisite: CHM 123. Corequisite: CHM 215.

212 Organic Chemistry II (4 credit hours)
Principles, theories, and applications of the chemistry of carbon compounds. Three hours lecture, one hour recitation. Prerequisite: CHM 211; concurrent enrollment in CHM 216.

213 Organic Chemistry III (4 credit hours)
Principles, theories, and applications of the chemistry of carbon compounds. Three hours lecture, one hour recitation. Prerequisite: CHM 212; concurrent enrollment in CHM 217.

245 Concepts in Chemistry I (4.5 credit hours)
An accelerated treatment of fundamental concepts and applications of chemistry for elementary education majors. Those concrete observable topics most appropriate for presentation to elementary and middle school students will be emphasized. Demonstrations and activities are used extensively. For elementary education majors. Integrated lecture/lab. Prerequisite: MTH 143.
301 Philosophy of Chemistry (3 credit hours)
An upper level course for non-science majors who wish to learn about chemistry from a philosophical and humanist viewpoint.

302 Environmental Chemistry (4 credit hours)
(Also listed as CHM 502.) Water, air, and soil chemistry including pollutants added to these environments and how they interact to create environmental problems. Three hours lecture, three hours lab. Prerequisite: CHM 123 or 193.

310 Issues in Science (3 credit hours)
(Also listed as BIO 310, PHY 310, MTH 310, and GL 310.) A writing-intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.

312 Quantitative Analysis (3 credit hours)
Introduction to chemical methods of analysis covering traditional as well as modern techniques and equipment; emphasis on calculations and the interpretation of analytical data. Prerequisite: CHM 123; corequisite: CHM 314.

345 Concepts in Chemistry II (4.5 credit hours)
Based on National Science Education Standards. Topics include: periodic table, chemical reactions, thermochemistry, organic and nuclear chemistry with everyday examples. Inquiry-based activities including historical and societal perspectives. For middle education majors pursuing science concentration. Integrated lecture/lab. Prerequisite: MTH 244, CHM 245 and PHY 245.

361 The Organic Chemistry of Engineering Materials (4 credit hours)
Molecular structure, stereochemistry, properties, and reactivities of selected organic substances of industrial importance, including fuels, lubricants, solvents, coatings, plastics, dyes, and naturally occurring engineering materials. Not open to students with credit for CHM 212. Prerequisite: Chemistry 122.

402 Advanced Environmental Chemistry and Analysis (4 credit hours)
(Also listed as CHM 602.) Environmental sampling and analysis using instrumental techniques. Chemical fate prediction by measurement and examination of physical and chemical properties. Three hours lecture, three hours lab. Prerequisite: CHM 312/314 and CHM 213; or permission of instructor.

410 Environmental Chemistry I: Air (3.5 credit hours)
Study of the Earth’s atmosphere including its normal composition and atmospheric reactions; emphasis on nature, causes, effects, detection, and abatement of various types of air pollution. Two hours lecture, three hours lab, or field project. Prerequisite: CHM 213, 312; or permission of instructor.

411 Environmental Chemistry II: Water (3.5 credit hours)
Study of the Earth’s fresh and saline water including its normal composition and aquatic reactions; emphasis on nature, causes, effects, detection, and abatement of various types of water pollution. Two hours lecture, three hours lab or field project. Prerequisite: CHM 213, 312; or permission of instructor.

412 Environmental Chemistry III: Solids (3.5 credit hours)
A survey of the problems of solid wastes, pesticides, food additives, and radioactive materials including their chemical composition, effects, detection, disposal, and natural breakdown. Three hours lecture, one hour lab or field project.

417 Applied Chemical Spectroscopy (3 credit hours)
The practical applications of various spectrophotometrical techniques (mass spectroscopy, infrared spectroscopy, ultraviolet spectroscopy, and nuclear magnetic resonance) are integrated for the elucidation of the structure of organic molecules. A problem-solving approach is used. Prerequisite: CHM 213, 312 and 452; or permission of instructor.

419 Chemical Literature and Composition (3 credit hours)
Literature searching of journals, handbooks, abstracts, and patents. Writing of literature reports, abstracts, papers, and reports. Three lectures. Prerequisite: CHM 212 and 451.

420 Inorganic Chemistry (3 credit hours)
Principles and concepts of inorganic chemistry including the periodic table, atomic structure, chemical bonding, coordination compounds, and an introduction to group theory. Prerequisite: CHM 453 or consent of instructor.

421 Inorganic Chemistry (3 credit hours)
Principles and concepts of inorganic chemistry including the periodic table, atomic structure, chemical bonding, coordination compounds, and an introduction to group theory. Prerequisite: CHM 453 or consent of instructor.

425 Advanced Inorganic Synthesis and Characterization (3 credit hours)
Advanced synthesis and characterization of representative inorganic compounds. Prerequisite: CHM 417, 420 or permission of instructor.

435 Instrumental Analysis (3 credit hours)
Introduction to the theory and practice of modern chemical instrumentation. Elementary electronics, spectrophotometry, atomic absorption, electrochemical techniques, chromatography, and other instrumental techniques. Prerequisite: CHM 312, 452. Corequisite: CHM 436.
437 Electronanalytical Chemistry (3 credit hours)
Fundamental principles of electrochemistry and the application of electrochemical methods to chemistry and chemical analysis. Prerequisite: CHM 312.

440 Synthetic Medicinal Chemistry I (3 credit hours)
Covers various chemical aspects of drugs including synthetic design, mode of action, and uses of various pharmaceuticals. Topics include cardiovascular agents, antibiotics, anti-tumor agents, and central nervous system drugs. Prerequisite: CHM 213.

441 Synthetic Medicinal Chemistry II (3 credit hours)
Covers various chemical aspects of drugs including synthetic design, mode of action, and uses of various pharmaceuticals. Topics include cardiovascular agents, antibiotics, anti-tumor agents, and central nervous system drugs. Prerequisite: CHM 213.

443 Chemical Toxicology I: Drugs (3 credit hours)
Study of the basic principles of chemical toxicology. Chemicals that have the greatest incidence of abuse are discussed in detail with regard to their chemical-biological interactions, symptomatology of toxicity, clinical chemistry tests, and treatment. Prerequisite: CHM 213 and 312.

444 Chemical Toxicology II: Environmental (3 credit hours)
Study of the basic principles of chemical toxicology. Chemicals that have the greatest incidence of abuse are discussed in detail with regard to their chemical-biological interactions, symptomatology of toxicity, clinical chemistry tests, and treatment. Prerequisite: CHM 213 and 312.

445 Advanced Organic Synthesis and Characterization (3 credit hours)
Advanced synthesis and identification of organic compounds. One hour lecture, four hours lab. Prerequisite: CHM 213, 217, 417.

451 Physical Chemistry (3 credit hours)
Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids. Prerequisite: CHM 123, MTH 231 and PHY 242 or PHY 113.

452 Physical Chemistry (3 credit hours)
Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids. Prerequisite: CHM 451.

453 Physical Chemistry (3 credit hours)
Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids. Prerequisite: CHM 452 or permission of instructor.

456 Physical Chemistry for Nonchemists (4 credit hours)
An introduction for nonchemistry majors to the ideas of physical chemistry, including thermodynamics, properties of liquids and solids, solution properties, and kinetics. Intended for biologists, geologists, physicists, premedical students and others with an interest in physical chemistry. Prerequisite: One year each of college chemistry and physics; at least one quarter of calculus.

461 Synthetic Polymer Chemistry (3 credit hours)
Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers. Prerequisite: CHM 213 and 451; or CHM 361; or permission of instructor.

465 Physical Polymer Chemistry (3 credit hours)
Introduction to the structural and physical aspects of macromolecules; emphasis on the relationship of polymer structure to physical and mechanical properties. Prerequisite: CHM 213 and 452; or 361; or permission of instructor.

467 Physical Polymer Chemistry Laboratory (1 to 2 credit hours)
Laboratory illustrations of CHM 465 lecture material and techniques of polymer science.

468 Polymer Synthesis Laboratory (1 to 2 credit hours)
Laboratory illustrations of CHM 461 lecture material and techniques of polymer science. Prerequisite or corequisite: CHM 461.

469 Engineering Plastics: Materials, Processes and Design (4 credit hours)
(Also listed as ME 489.) Properties and manufacturing processes of engineering plastics, and effects of these factors on plastics design. Illustrative laboratory projects are included. Two hours lecture, four hours lab. Prerequisite: CHM 465.

479 Materials Corrosion (4 credit hours)
(Also listed as ME 479.) Survey of principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included. Prerequisite: ME 315, ME 371, or corequisite CHM 453, or permission of instructor.

Clinical Laboratory SCI/CL

420 Orientation to Clinical Laboratory Science (2 credit hours)
Theory and application of lab safety, universal precautions, specimen collection, quality assurance, and other techniques fundamental to clinical laboratory. Prerequisite: Completion of Preprofessional Clinical Laboratory Science curriculum.
423 **Clinical Pathology Seminar (2 credit hours)**
Correlation of clinical findings through case studies.

431 **Urinalysis and Body Fluid Analysis (3 credit hours)**
Study of body fluids, including the pathophysiology of their formation and the biochemical and morphologic methods used to obtain diagnostic information. Lecture and laboratory.

441 **Hematology (4 credit hours)**
Theory and application of principles of hematology, including hematopoiesis, counting and identification of cells in the peripheral blood, and the use of cellular morphology to diagnose disease. Lecture and laboratory.

442 **Advanced Hematology (2 credit hours)**
Advanced topics in hematology with an emphasis on the diagnosis and treatment of anemias, myelodysplastic and myeloproliferative disorders.

443 **Clinical Hematology Practicum (5 credit hours)**
Practical application of hematology techniques at clinical site.

451 **Principles of Hemostasis (2 credit hours)**
Principles of hemostasis involved in blood vessel contraction, platelet activation and formation, and activation of coagulation factors, and their use in diagnosing coagulation defects and monitoring anticoagulant therapy. Lecture and laboratory.

461 **Clinical Chemistry (4 credit hours)**
Theory and application of human biochemistry and principles of chemistry techniques used in the analysis of blood and other body fluids. Lecture and laboratory.

462 **Advanced Clinical Chemistry (3 credit hours)**
Study of endocrine system, inborn errors of metabolism, toxicology, the role of tumor markers in cancer diagnosis and management, and other advanced topics in clinical chemistry.

463 **Clinical Chemistry Practicum (5 credit hours)**
Practical application of clinical chemistry techniques at clinical site.

471 **Diagnostic Microbiology (5 credit hours)**
Study of media composition and selection, biochemical techniques used to identify bacteria and related physiology, antibiotic susceptibility of bacteria and discussion and identification of parasites. Lecture and laboratory.

472 **Advanced Diagnostic Microbiology (2 credit hours)**
Study of characteristics, pathophysiologic mechanisms and identification of chlamydia, fungi, viruses and other organisms and the methods used to diagnose and treat related diseases. Lecture only.

473 **Clinical Microbiology Practicum (5 credit hours)**
Practical application of microbiology techniques at clinical site.

481 **Immunology/Sero/ogy (4 credit hours)**
Study of antigens and the stimulation of antibodies in vivo, and the use of these reactions to perform in vitro testing to diagnose and monitor the course of disease. Lecture and laboratory.

491 **Immunohematology/Transfusion Medicine (3 credit hours)**
Theory and application of immunology; specifically the use of antigens and antibodies in blood grouping and transfusion medicine.

492 **Advanced Immunohematology (2 credit hours)**
Advanced topics in transfusion medicine, including immune hemolytic anemias, paternity testing, component therapy, HLA antigens, quality assurance and the role of regulatory agencies in the practice of transfusion medicine. Lecture only.

493 **Clinical Transfusion Medicine Practicum (4 credit hours)**
Practical application of transfusion medicine techniques at clinical site.

**Classics/CLS**

100 **Latin and Greek Roots in English (4 credit hours)**
Builds English vocabulary through a study of Latin and Greek roots. Emphasis on words used commonly in higher education rather than on specialized terminology.

101 **Medical and Scientific Terminology (4 credit hours)**
Spelling, recognition, and understanding contemporary specialized medical and scientific vocabulary that is based on the Latin and Greek languages. Emphasis on terminology of the medical sciences.

150 **Introduction to Greek and Roman Culture (4 credit hours)**
Survey of the development of classical culture from prehistoric Greece to the fall of the Roman Empire. A broad view of the interrelated political, economic, and social conditions, and philosophy, religion, mythology, literature, art, and architecture.

160 **Introduction to Classical Mythology (3 credit hours)**
Survey of the myths and legends of ancient Greece and Rome that are an important part of the Western literary and cultural tradition. Emphasis on story patterns and characters.

204 **Great Books: Classical Beginnings (4 credit hours)**
Reading, discussion, analysis of selected texts from ancient Greece and Rome; for example, the works of Homer, Sophocles, Plato, Virgil, Cicero, Horace.
260 Introduction to Classical Mythology (4 credit hours)
Survey of the myths and legends of ancient Greece and Rome that are an important part of the Western literary and cultural tradition. Emphasis on story patterns and characters.

300 How We Know Antiquity (4 credit hours)
How do we know what we think we know about classical antiquity? Study of the different types of evidence and of ways in which this evidence is analyzed, handled, and interpreted by scholars?

310 Golden Age of Greece (4 credit hours)
Greek experience in fifth and fourth centuries B.C. with emphasis on Athenian democracy and the Golden Age of Athens: drama, history, oratory, and philosophy.

320 Rome: Republic and Empire (4 credit hours)
Emphasis on late republic and early empire, particularly the Augustan age. The idealism of Virgil and Lucretius; the realism of Cicero, Sallust, and Tacitus.

330 Studies in Ancient Literature (4 credit hours)
Drama, epic, and lyric poetry; prose; selected themes in ancient literature; and literary criticism.

340 Studies in Ancient Art and Archaeology (4 credit hours)
(Also listed as ART 411.) Greece in the Bronze Age; classical Greece and Rome; and selected areas of Greek and Roman archaeology. Prerequisite: Junior/senior standing or permission of department.

350 Studies in Ancient Culture and Society (4 credit hours)
Greek and Roman civilization with evidence from art, literature, archaeology, law, and other sources.

360 Studies in Ancient Mythology (4 credit hours)
Greek and Roman mythology: aspects and approaches to the study of myths; and archaeological and nonliterary sources. Prerequisite: Junior/senior standing or permission of department.

370 Studies in Ancient Law, Government, and Politics (4 credit hours)
Law and legal systems of Greece and Rome; government and administration; and political problems of the ancient world. Prerequisite: Junior/senior standing or permission of department.

399 Studies in Selected Subjects (1 to 4 credit hours)
Course of variable content dealing with problems, approaches, and topics in the field of classics.

410 Advanced Studies in Antiquity (4 credit hours)
Literature, mythology, law and government, art and archaeology, culture and society. Students must consult Department of Classics before registering. Prerequisite: Junior/senior standing.

481 Independent Reading (4 credit hours)
Directed studies in literature, mythology, archaeology, law, and government. For classical humanities majors only. Prerequisite: Senior majors in department.

499 Senior Comprehensive Review (2 credit hours)
Required of majors in the classics, Greek, or Latin. Independent study and review leading to comprehensive examination based on the course work undertaken by each individual student. Prerequisite: Senior standing and 44 hours in major.

Counseling/CNL

210 Understanding Emotional Intelligence (4 credit hours)
This course explores the topic of emotional intelligence and its relevance to I.Q. The course will focus on the benefits of emotional intelligence and its application to education of youth.

461 Principles of Counseling (4 credit hours)
Overview of major counseling theories and techniques. Review of historical foundations of the mental health movement. Social, psychological, and philosophical influences are considered.

463 Mental Health (4 credit hours)
Factors influencing behavior of individuals; methods a counselor may use in observing, analyzing, and improving attitudes and behavior.

464 Crisis Intervention (4 credit hours)
Introduction to the background, theory, practice, and needs of crisis intervention within the helping professions. A variety of crisis intervention models are explored, as are the various community resources available to the crisis intervention worker. Prerequisite: CNL 461.

467 Group Background and Theory (4 credit hours)
Surveys the background, theory, patterns of function, technique of facilitating, and use of small groups in counseling. Prerequisite: CNL 461, RHB 407.

470 Workshop IN: (1 to 6 credit hours)
Intensive study of selected areas from counselor education to meet the particular needs of participating students, schools, and agencies. Titles vary. Graded pass/unsatisfactory.

Communication/COM

101 Essentials of Public Address (3 credit hours)
Fundamentals of verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of a speech.
102 Essentials of Interpersonal Communication (3 credit hours)
Introduction to intrapersonal and interpersonal communication processes as they affect communication style and competence. Emphasis on a holistic approach to communication by understanding concepts, analyzing experiences, and practicing new skills.

103 Communication for Teachers (3 credit hours)
Examination of types of communication in the classroom. Principles and practice of oral and written communication in story-telling, lecturing, discussion, and interpersonal communication.

111 Oral Interpretation (3 credit hours)
Introduction to the oral experience of literature. Theory and technique of oral reading. Frequent performances by students.

130 Introduction to Communication Activities (1 credit hour)
Research, practice, and participation in communication forums, symposia, or an oral communication project designed to meet the interest of individual students. Independent study. Graded pass/unsatisfactory.

133 Parliamentary Procedure (2 credit hours)
Theory and practice in parliamentary procedure, including an examination of principal motions, constructing a constitution, managing a meeting, and major parliamentary law cases.

141 Small Group Communication (3 credit hours)
Theory and practice in small-group communication with projects in definition, analysis, research, organization, logical processes, and leadership. Prerequisite: COM 101.

152 Mass Communication (3 credit hours)
Study of the types, functions, and impact of the various mass communication media.

200 Writing to Communicate (4 credit hours)
Instruction and practice in writing to inform and persuade, emphasizing analysis of purpose, strategy, organization, style, and correct language. Instruction in use of information sources, including computer-linked databases.

203 Business Communication (3 credit hours)
Interorganizational communication skills for job interviewing, persuasive proposals, departmental meetings, oral report presentations, and job appraisals are experienced along with employee communications to accomplish job tasks.

221 Voice and Articulation (3 credit hours)
Theory and practice of voice and articulation effectiveness.

232 Argumentation and Debate (3 credit hours)
Projects in analysis, research, briefing, ordering of arguments and evidence, refutation, audience evaluation, argumentative composition, and delivery. Prerequisite: COM 101 or permission of instructor.

253 Basic Video Production (3 credit hours)
(Also listed as TH 253.) A basic introduction to the use of video production equipment using lecture, demonstration, and experiential approaches. Appropriate laboratory time provided in television studio. Prerequisite: COM 152 or permission of instructor.

256 Basic Media Writing (4 credit hours)
(Also listed as ENG 257.) Introduction to writing for media. Structure and organization of media copy. Course requires reporting in the field. Prerequisite: COM 152 and permission of instructor.

325 Health Communication (4 credit hours)
Examination of the basic themes and issues that have developed in health communication research including physician-patient and nurse-patient communications, organizational communication in health care organizations, and relationships among care providers.

330 Advanced Communication Activities (1 credit hour)
Research, practice, and participation in communication forums, symposia, or an oral communication project designed to meet the interest of individual students. Independent study. Graded pass/unsatisfactory.

333 Persuasion (4 credit hours)

335 Survey of Rhetorical Theory (4 credit hours)
Overview of general rhetorical theory from classical Greek and Roman foundations to modern rhetoric. Emphasis on selected works of scholars and rhetoricians. Prerequisite: COM 101 or permission of instructor.

340 Effective Listening (4 credit hours)
Development of listening skills for discriminative, comprehensive, therapeutic, critical, appreciative purposes; and for interpersonal, group, and public contexts. Prerequisite: COM 101 and COM 102.

343 Communication and Human Relations (4 credit hours)
Focuses on the need for both personal and professional communication skills. Examines how communication enhances relationships between people, leading to healthy social transactions and productive work situations. Prerequisite: COM 102 or permission of instructor.
345 Public Relations: Principles and Practices  
(4 credit hours)  
Simulation focusing on the processes of a public-relations campaign: fact finding, action planning, implementation of communication channels, and program evaluation. Experiences focus on one internal and one external campaign for students. Prerequisite: COM 256 and permission of instructor.

346 Public Relations Campaign Techniques  
(4 credit hours)  
Development of skills necessary for effective planning and implementation of public relations campaigns. Includes audiences and media analysis, and the design and writing of a variety of campaign materials. Prerequisite: COM 345.

347 Case Studies in Public Relations (4 credit hours)  
In-depth analysis of the public relations process through an examination of various cases involving public relations problems. Prerequisite: COM 345.

358 Emerging Communication Technologies  
(4 credit hours)  
Examines developing communication technologies with emphasis on alternative delivery systems. Prerequisite: COM 256 and permission of instructor.

360 Broadcast Journalism (4 credit hours)  
Examination of broadcast news with special attention given to coverage, selection, and reporting of the news. Prerequisite: COM 256 or permission of instructor.

364 Communication Graphics (4 credit hours)  
(Also listed as ENG 364.) Introduces basic principles of graphics communication, primarily as applied to print media. Includes history and basic concepts of graphics communication, typography, photo editing, and graphic design.

365 Issues in Mass Communication (4 credit hours)  
An in-depth examination of the major issues facing the American mass media, including such topics as media effects, content of programming, the commercialization of public broadcasting, media ownership, children’s programming, and others. Prerequisite: COM 152.

366 Advanced News Writing (4 credit hours)  
(Also listed as ENG 366.) Advanced study of writing skills, practices, and procedures used in reporting news for mass media. Actual reporting in the field is required. News writing skills introduced in COM 256 are further refined. Prerequisite: COM 256.

399 Studies in Selected Subjects (1 to 4 credit hours)  
Problems, approaches, and topics in the field of speech. Topics vary.

401 Communication Theory (4 credit hours)  
A study of various classical and contemporary theories of communication. An examination of theories related to communication systems, communication interaction, and social contexts. Prerequisite: Open only to communication majors and minors who have satisfactorily completed COM 101, 102, 141, and 152.

411 Performance for the Media (4 credit hours)  
Development of skills necessary for effective television and radio presentations. Study of criteria for selecting appropriate talent and frequent practice in a wide range of media settings.

429 Urban Communications Theory (4 credit hours)  
(Also listed as PLS 429.) Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.

432 Gender and Communication (4 credit hours)  
Theoretical and pragmatic consideration of how and why men’s and women’s communication behaviors are similar to one another in some instances, yet different in others, and how men and women can communicate more effectively. Prerequisite: COM 102.

439 Freedom of Speech (4 credit hours)  
Study of the growth and development of free speech in the United States. Emphasizes the development of definitions of free speech and various communication strategies in different settings. Prerequisite: COM 101 or consent of instructor.

441 Advanced Interpersonal Communication (4 credit hours)  
In-depth view of interpersonal communication skills: presenting, receiving, and challenging. A group context is used to promote self-directed changes in interpersonal style. Prerequisite: COM 102 or permission of instructor.

443 Interviewing (4 credit hours)  
Through a matrix organizational structure, students experience theory in selection, survey, journalistic, performance appraisal, persuasion, and counseling interviewing situations with the focus on human resource development.

445 Conference Leadership (4 credit hours)  
Simulation focusing on the creation, development, and execution of a professional conference through assessment of participants’ needs. Experiences include completing group tasks through assigned roles developed from current leadership theories. Prerequisite: COM 101, 141, 102.

446 Introduction to Organizational Communication (4 credit hours)  
Elements of the communication process as pertinent to the field of organizational communication. By developing understanding, a framework is established for contextual applications of the features of organizations.
447 Organizational Communication: Applications and Strategies (4 credit hours)
Application of organizational communication theories and major theoretical perspectives to problems in public and private-sector organizations. Course includes a simulation which focuses on conflict management, leadership, and decision making in a business context.

448 Case Studies in Organizational Communication (4 credit hours)
A critical analysis of communication issues and problems in organizations through an examination of various cases. Prerequisite: COM 256 and permission of the instructor.

449 Survey of Communication Research (4 credit hours)
Provides a basic knowledge of the behavioral approach and current theories and experiments in communications research.

451 Communication Consulting and Training (4 credit hours)
By means of a matrix structure, consulting and training theories are experienced in communication programs and processes as a methodology for human resource development within organizations. Prerequisite: COM 447 or permission of instructor.

452 Communication and Conflict (4 credit hours)
In-depth study of the function of communication in conflict/crisis situations. Emphasizes the role that communication performs in conflict resolution in interpersonal, inter-group, and international situations.

453 Feature Story Writing (4 credit hours)
(Also listed as ENG 454.) Finding, writing, polishing, and marketing feature material. Prerequisite: COM 256 or permission of instructor.

454 Nonverbal Communication (4 credit hours)
Theory, survey of research, and experiential learning in nonverbal communication. Exploration of types and forms, and methods of sending and receiving nonverbal communication. Prerequisite: COM 102 or 141.

455 Intercultural Communication (4 credit hours)
Study of communication in intercultural environments. Emphasis on research and theory to better understand the complexity of intercultural communication interactions.

456 Editing for The Media (4 credit hours)
(Also listed as ENG 456.) Editing of copy for mass media with special emphasis on newspaper format, headline writing, rewriting, and general copy desk. Prerequisite: COM 256 or permission of instructor.

460 Programming and Management of Electronic Media (4 credit hours)
Analysis of programs and program strategies for broadcast and other electronic media. Emphasis on information for managing these media.

462 Mass Media: Law and Regulation (4 credit hours)
Study of laws and regulations affecting mass media. Prerequisite: COM 256 and permission of instructor.

464 Broadcast Criticism (4 credit hours)
Analysis of contemporary programming and production practices including the development of critical standards for evaluation. Prerequisite: COM 256 and permission of instructor.

471 Topics in Communication (4 credit hours)
Examination of special topics in the various areas of speech communication. Titles vary.

481 Independent Reading (1 to 4 credit hours)
Faculty-directed readings and research.

482 Senior Honors Project (1 to 4 credit hours)
Independent studies course that allows students to pursue research that culminates in a senior honors thesis or project. Prerequisite: Nine hours of Communication honors course.

489 Communicating with The Elderly (4 credit hours)
Analysis of the unique communication behaviors of the elderly and the physical, social, and emotional changes that cause them. Development of interpersonal, interviewing, and reporting skills by direct interaction with this age group.

Comparative Literature/CPL

310 Problems in Comparative Literature (4 credit hours)
Readings in comparative literature dealing with themes, myths, genres, literary movements, or characters; e.g., the myth of Electra in the modern theater, the picaresque novel, existentialism in European fiction, and the ambitious hero in literature.

399 Studies-Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of comparative literature. Topics vary.

405 Theory of Comparative Literature (4 credit hours)
History and development of comparative literature as a discipline; study of basic reference works and journals; papers and reports based on comparative studies.

Computer Science/CS

141 Computer Programming I (4 credit hours)
Introduction to use of computers as a problem-solving tool. Examples from and applications to a broad range of problems. Methodology for algorithm design and for structured modular implementation is stressed. Three hours lecture, two hours lab. Prerequisite: MTH 127 or at least Level 4 placement on Math Placement Test.
142 Computer Programming II (4 credit hours)
Concepts introduced in CS 141 are developed in greater detail and depth. Emphasis on verification and testing of programs. Three hours lecture, two hours lab. Prerequisite: CS 141.

205 Computer Literacy and Office Automation (4 credit hours)
Introductory course in the use of computers in a professional environment. Personal computer work stations are employed and used for popular applications (e.g., word processing, spreadsheets and data base management, and electronic mail). Two hours lecture, four hours lab.

206 Computer Software Productivity Tools (4 credit hours)
Advanced use of application software to increase productivity. Covers advanced DOS and hard disk management, desktop publishing, presentation graphics. sharing data and files among different packages, spreadsheet macros, and dBase IV. CS and CEG majors may not take this course for credit. Prerequisite: CS 205 or WAIVER of CS 205.

207 Advanced Office Productivity II (4 credit hours)
Emphasis is placed on understanding how packages interact within an integrated environment. Personal computers are used for sophisticated word processing and desktop publishing projects. State-of-the-art presentation techniques such as hypertext will be discussed. Prerequisite: CS 205 and 206, or equivalent work experience.

208 Computer Programming for Business with C—I (4 credit hours)
Introduces basic concepts of programming using the C programming language. Examples are from business applications and display graphics. Emphasis is on problem solving with the computer as a tool. Prerequisite: CS 205 and MTH 129.

209 Computer Programming for Business with C—II (4 credit hours)
Continuation of CS 208. Introduces the basic concepts of programming using the C programming language. Examples are from business applications and display graphics. Emphasis is on problem solving with the computer as a tool. Prerequisite: CS 208.

214 Object Based Programming (4 credit hours)
An introductory course to the use of graphic objects in a windows event-driven environment providing a case study of object-oriented programming with Visual Basic in Microsoft Windows to develop simple graphic user interfaces. Need to be familiar with programming concepts. Prerequisite: Familiarity with programming concepts.

225 ADA Programming (4 credit hours)
Introduction to computer programming with Ada language relative to the software engineering environment. CS and CEG majors may not take this course for credit. Prerequisite: CS 141 or equivalent.

240 Computer Science I (4 credit hours)
Basic concepts of programming and programming languages are introduced. Emphasis is on structured programming and stepwise refinement. For CS/CEG majors with familiarity of a high-level programming language. Prerequisites or corequisites: MTH 130 and 131; or MTH 134.

241 Computer Science II (4 credit hours)
A continuation of CS 240. The emphasis is on data abstraction and software engineering. Prerequisite: CS 240; corequisite: MTH 229.

242 Computer Science III (4 credit hours)

300 COBOL Programming I (4 credit hours)
Elements of COBOL language: techniques for debugging and interpreting computer output; linkage to subroutines and overlays; file structure involving both sequential and random access; and case studies with business applications. Three hours lecture, two hours lab. Prerequisite: CS 142 or 241.

301 COBOL Programming II (4 credit hours)
COBOL Programming, Elements of COBOL Language: techniques for debugging and interpreting computer output; linkage to subroutines and overlays; file structures involving both sequential and random access; case studies with business applications. 3 hrs. lecture, 2 hrs laboratory. Prerequisite: CS 300.

302 Client Server Databases (4 credit hours)
Relational client server database design and access techniques. Includes building database tables, writing SOL statements/programs, and developing user interfaces and reports for data retrieval using Internet. Not for credit for CS/CEG majors. Prerequisite: CS 141 or CS 208.

315 Job Control Language (2 credit hours)
Introduces system 370 job control language. Studies the various JCL statements. Programming exercises are assigned to give students the practical experience needed to create and run various jobs. Prerequisite: CS 142 or equivalent programming experience.

316 Numerical Methods for Digital Computers (4 credit hours)
Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours lab. Prerequisite: CS 142 or EGR 153 or CS 241 or CS 220; MTH 231, 253 or 255.
317 Numerical Methods for Digital Computers (4 credit hours)
An introduction to numerical methods used in the sciences. Included will be methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours laboratory. Prerequisite: CS 316, MTH 233, 253 or 355.

340 Programming Language Workshop (1 credit hour)
Self-directed study in computer languages. Individual workshops are offered in significant languages such as JAVA, COBOL, PL/1, SNOBOL, LISP, SIMSCRIPT, and GPSS. May be taken for letter grade or pass/unsatisfactory. Prerequisite: CS 400.

399 Selected Topics (1 to 5 credit hours)
Selected topics in computer science. May be taken for letter grade or pass/unsatisfactory.

400 Data Structures and Software Design (4 credit hours)
Study of the implementation of data structures and control structures in professional computer programs. Introduction to the fundamentals of complexity and analysis. Study of common standard problems and solutions (e.g., transitive closure and critical path). Emphasis on high-level language software design. Three hours lecture, two hours lab. Prerequisite: CS 242, MTH 253, 257, CEG 333.

405 Introduction to Data Base Management Systems (4 credit hours)
Survey of logical and physical aspects of data base management systems. Hierarchical, network, and relational models of a data base are presented. Physical implementation methods are discussed. Experience in creating and manipulating a data base. Three hours lecture, two hours lab. Prerequisite: CS 400.

407 Optimization Techniques (3 credit hours)
(Also listed as MTH 407.) Concepts of minima and maxima; linear programming; simplex method, sensitivity, and duality; transportation and assignment problems; and dynamic programming. Prerequisite: MTH 233 and MTH 253 or 255.

409 Principles of Artificial Intelligence (4 credit hours)
Problem-solving methods in artificial intelligence (AI) with emphasis on heuristic approaches. Topics include methods of representation, search, intelligent agents, planning, learning, natural language processing, logic, inference, robotics, and case-based reasoning. Three hours lecture, two hours lab. Prerequisite: CS 400 and CS 340 (LISP) or LISP Programming experience.

410 Theoretical Foundations of Computing (4 credit hours)
(Also listed as MTH 410.) Turing machines; 5-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. Three hours lecture, two hours lab. Prerequisite: CS 466.

415 Social Implications of Computing (3 credit hours)
Examines the impact of computers and computing on society. Topics include privacy, dangers introduced by computers performing critical tasks, the effect of robots on the work force, the impact of computers on education, and the new legal issues introduced by computing.

419 Cryptography and Data Security (3 credit hours)
(Also listed as MTH 419.) Introduction to the mathematical principles of data security. Various developments in cryptography are discussed, including public-key encryption, digital signatures, and key safeguarding schemes. Prerequisite: MTH 253 or 255.

458 Applied Graph Theory (3 credit hours)
(Also listed as MTH 458.) Introduction to methods, results, and algorithms from graph theory. Emphasis on graphs as mathematical models applicable to organizational and industrial situations. Prerequisite: CS 142 or 241, MTH 231.

459 Combinatorial Tools for Computer Science (3 credit hours)
(Also listed as MTH 459.) Introduction to some of the mathematical tools needed for an understanding of computer programming. The topics covered are summations, elementary number theory, combinatorial identities, generating functions, and asymptotics. Prerequisite: MTH 280; MTH 457 recommended.

466 Introduction to Formal Languages (4 credit hours)
Introduction to the theory of formal languages and automata. Emphasis is on those classes of languages commonly encountered by computer scientists (e.g., regular and context-free languages). Three hours lecture, two hours lab. Prerequisite: MTH 257, CS 400; or MTH 257 and completion of a 400-Level math or statistics course.

470 Systems Simulation (4 credit hours)
Introduction to simulation and comparison with other techniques. Discrete simulation models. Introduction to queuing theory and stochastic processes. Comparison of simulation languages. Simulation methodology and selected applications. Three hours lecture, two hours lab. Prerequisite: CS 400 and STT 360 or STT 363.
471 Algorithms for Bioinformatics (4 credit hours)
Theory-oriented approach to the application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced in the context of application toward solving specific computational problems in molecular genetics. Prerequisite: BIO 271, CS 399, CS 400, BIO 210 and 211, CHM 213.

480 Comparative Languages (4 credit hours)
Basic concepts and special-purpose facilities in programming languages examined through several representative languages. Three hours lecture, two hours lab. Prerequisite: CS 400.

482 Scanning, Parsing, and Semantic Analysis (4 credit hours)
Study and use of tools for performing lexical, syntactic, and semantic analysis of computer-oriented languages. Prerequisite: CS 466, CS 480.

499 Selected Topics (1 to 5 credit hours)
Selected topics in computer science. May be taken for letter grade or pass/unsatisfactory, at instructor's option.

Comparative Studies/CSE/CSE

250 Comparative Non-Western Economic Systems (4 credit hours)
Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.

Comparative Studies/CST

231 Comparative Non-Western Literature (4 credit hours)
Examination of the world views of selected non-Western peoples and their varied expressions in literature, emphasizing examples from Asia, Africa, Latin America, and the Middle East.

232 Comparative Non-Western Religions (4 credit hours)
An introduction to the academic study of some of the major non-Western religious traditions of the world, examining their historical development, fundamental doctrines and beliefs, practices, institutions, and cultural expressions.

241 Comparative Non-Western Cultures (4 credit hours)
Examines diversity from an anthropological perspective, utilizing concepts and methods of cultural anthropology. Students will use a holistic approach to analyzing non-Western cultures while gaining understanding of the distinctive research methods of cultural anthropology.

242 Comparative Non-Western Cultures: Music (4 credit hours)
Introduction to the music and cultural diversity and uniqueness of selected areas of the globe. This course includes the study of indigenous folk music and instruments of Asia, India, Africa, North America, Central and Southeast Europe.

243 Comparative Non-Western Cultures: Art (4 credit hours)
An introduction to the cultural diversity and uniqueness of selected areas of Asia, Africa, Latin America, and the Middle East as reflected in art.

Dance/DAN

101 Ballet I (3 credit hours)
Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training.

102 Ballet I (3 credit hours)
Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training.

103 Ballet I (3 credit hours)
Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training.

104 BEG Ballet for Music Tap (2 credit hours)
This beginning Level of ballet is geared to the dance needs of students preparing for careers in musical theatre.

105 BEG Ballet for Music Tap (2 credit hours)
This beginning Level of ballet is geared to the dance needs of students preparing for careers in musical theatre.

106 Beginning Ballet for Musical Tap (2 credit hours)
This beginning Level of ballet is geared to the dance needs of students preparing for careers in musical theatre.

111 Fundamentals of Dance (3 credit hours)
Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination.

112 Fundamentals of Dance (3 credit hours)
Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination.
113 Modern Dance I: Fundamentals of Dance (3 credit hours)
Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination. Prerequisite: DAN 112.

121 Beginning Jazz Musical Theater (1 credit hour)
Emphasis on various traditional and contemporary jazz techniques and styles within the realm of musical theatre.

122 Beginning Jazz Musical Theater (1 credit hour)
Emphasis on various traditional and contemporary jazz techniques and styles within the realm of musical theatre.

123 Beginning Jazz for Musical Theater (1 credit hour)
Emphasis on various traditional and contemporary jazz techniques and styles within the realm of musical theatre.

131 Intermediate Jazz I (2 credit hours)
First-year intermediate work in jazz dance technique. Emphasis is on technical proficiency and versatility through staccato and lyrical movements. Focus on musicality and individual artistry. Prerequisite: DAN 111 or permission of department.

132 Intermediate Jazz I (2 credit hours)
First-year intermediate work in jazz dance technique. Emphasis is on technical proficiency and versatility through staccato and lyrical movements. Focus on musicality and individual artistry. Prerequisite: DAN 131 or permission of department.

133 Intermediate Jazz I (2 credit hours)
First-year intermediate work in jazz dance technique. Emphasis is on technical proficiency and versatility through staccato and lyrical movements. Focus on musicality and individual artistry. Prerequisite: DAN 132 or permission of department.

201 Ballet II (3 credit hours)
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 103.

202 Ballet II (3 credit hours)
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 201.

203 Ballet II (3 credit hours)
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 101, 102, 103, 201, 202.

207 Beginning Tap Dance (1 credit hour)
Beginning Level of tap dance introduces students with no previous experience to the fundamental movements and rhythmic structures of the form.

208 Beginning Tap Dance (1 credit hour)
Beginning Level of tap dance introduces students with no previous experience to the fundamental movements and rhythmic structures of the form.

209 Beginning Tap Dance (1 credit hour)
Beginning Level of tap dance introduces students with no previous experience to the fundamental movements and rhythmic structures of the form.

211 Modern Dance II (3 credit hours)
Fundamentals of modern dance: emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space.

212 Modern Dance II (3 credit hours)
Fundamentals of modern dance: emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space.

213 Modern Dance II (3 credit hours)
Fundamentals of modern dance: emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 212.

214 Modern Dance for Actors (2 credit hours)
Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 113.

215 Modern Dance for Actors (2 credit hours)
Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 214.

216 Modern Dance for Actors (2 credit hours)
Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 215.

231 Intermediate Jazz II (2 credit hours)
Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio jazz movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: DAN 133.

232 Intermediate Jazz II (2 credit hours)
Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio jazz movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: DAN 231.

233 Intermediate Jazz II (2 credit hours)
Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio jazz movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: DAN 232.
251 Dance History (1 credit hour)
Survey of Western theatrical dance from its roots in early cultures to the twentieth century.
Prerequisite: DAN 113 or permission of department.

252 Dance History (1 credit hour)
Survey of Western theatrical dance from its roots in early cultures to the twentieth century.
Prerequisite: DAN 251.

253 Dance History (1 credit hour)
Survey of Western theatrical dance from its roots in early cultures to the twentieth century.
Prerequisite: DAN 252.

301 Ballet III (3 credit hours)
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 203.

302 Ballet III (3 credit hours)
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 301.

303 Ballet III (3 credit hours)
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 201, 202, 203, 301, 302.

304 Intermediate Ballet for the Musical Theatre (2 credit hours)
Intermediate Level of ballet is geared to the dance needs of students preparing for careers in musical theatre. Emphasis on strong technique which can be applied to theatre dance needs.

305 Intermediate Ballet for the Musical Theatre (2 credit hours)
Intermediate Level of ballet is geared to the dance needs of students preparing for careers in musical theatre. Emphasis on strong technique which can be applied to theatre dance needs.

306 Intermediate Ballet for the Musical Theatre (2 credit hours)
Intermediate Level of ballet is geared to the dance needs of students preparing for careers in musical theatre. Emphasis on strong technique which can be applied to theatre dance needs.

307 Intermediate Tap Dance (1 credit hour)
Intermediate Level tap dance develops a more complex understanding of rhythmic structures in traditional and contemporary approaches to tap technique and choreography.

308 Intermediate Tap Dance (1 credit hour)
Intermediate Level tap dance develops a more complex understanding of rhythmic structures in traditional and contemporary approaches to tap technique and choreography.

309 Intermediate Tap Dance (1 credit hour)
Intermediate Level tap dance develops a more complex understanding of rhythmic structures in traditional and contemporary approaches to tap technique and choreography.

311 Modern Dance III (3 credit hours)
Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: DAN 213.

312 Modern Dance III (3 credit hours)
Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: DAN 311.

313 Modern Dance III (3 credit hours)
Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: DAN 312.

321 Jazz/Theatre Dance I (2 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance. Prerequisite: DAN 213.

322 Jazz/Theatre Dance I (2 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance. Prerequisite: DAN 321.

323 Jazz/Theatre Dance I (2 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance. Prerequisite: DAN 322.

331 Musical Theatre Dance Styles (3 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance.

332 Musical Theatre Dance Styles (3 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance.

333 Musical Theatre Dance Styles (3 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance.

341 Improvisation (1 credit hour)
Exploration of improvisation techniques as a compositional tool. For dance majors only. Prerequisite: DAN 213.
342 Choreography (1 credit hour)
Exploration of compositional techniques culminating in the creation of solos and ensemble works. For dance majors only. Prerequisite: DAN 341.

343 Choreography (1 credit hour)
Exploration of compositional techniques culminating in the creation of solos and ensemble works. For dance majors only. Prerequisite: DAN 342.

371 Dance Pedagogy (1 credit hour)
Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: DAN 252. Prerequisite: DAN 252.

372 Dance Pedagogy (1 credit hour)
Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: DAN 371. Prerequisite: DAN 371.

373 Dance Pedagogy (1 credit hour)
Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: DAN 372. Prerequisite: DAN 372.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of dance. Topics vary.

401 Ballet IV (3 credit hours)
Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: DAN 303 or departmental approval.

402 Ballet IV (3 credit hours)
Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: DAN 401; or departmental approval.

403 Ballet IV (3 credit hours)
Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: DAN 402 or permission of department.

411 Modern Dance IV (3 credit hours)
Advanced work in modern dance techniques and styles. Prerequisite: DAN 313.

412 Modern Dance IV (3 credit hours)
Advanced work in modern dance techniques and styles. Prerequisite: DAN 411.

413 Modern Dance IV (3 credit hours)
Advanced work in modern dance techniques and styles. Prerequisite: DAN 412. Prerequisite: DAN 412.

421 Jazz/Theatre Dance II (2 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance. Prerequisite: DAN 323.

422 Jazz/Theatre Dance II (2 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance. Prerequisite: DAN 421.

423 Jazz/Theatre Dance II (2 credit hours)
Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance. Prerequisite: DAN 422. Prerequisite: DAN 422.

431 Pointe Class (1 credit hour)
Emphasizes pointe work for the female dancer, to develop strength on pointe for classical ballet. Prerequisite: DAN 203.

432 Men's Ballet Class (1 credit hour)
Specific movements and exercises geared to the male dancer, to develop strength and virtuosity. Prerequisite: DAN 203.

433 Pas de Deux Class (1 credit hour)
Trains male and female dancers in the art of partnering, an essential part of all dance. Prerequisite: DAN 203.

491 Senior Dance Project (1 credit hour)
Advanced work for dance majors in creative projects and/or dance research. Prerequisite: DAN 343; or departmental approval.

492 Senior Dance Project (1 credit hour)
Advanced work for dance majors in creative projects and/or dance research. Prerequisite: DAN 491; or departmental approval.

493 Senior Dance Project (1 credit hour)
Advanced work for dance majors in creative projects and/or dance research. Prerequisite: DAN 492.

Developmental Education/DEV

071 Reading Improvement I (5 credit hours)
To help severely under-prepared students acquire the skills and confidence necessary to reduce the passive chore aspects of reading in order to stimulate an enthusiasm for learning in general. Graded pass/unsatisfactory.

072 Basic Writing Skills I (6 credit hours)
Provides intensive instruction for students whose writing skills are significantly below those necessary for success in university-level writing requirements. Graded pass/unsatisfactory.
073 Basic Mathematics I (5 credit hours)
Provides instruction in basic mathematical concepts and computations necessary for students to successfully perform mathematical functions that occur in daily life and to complete the Level II course, SS 083. Graded pass/unsatisfactory.

081 Reading Improvement II (5 credit hours)
To help students acquire skills necessary to comprehend a tenth grade textbook; to find the main idea, recognize sentence patterns, deduce meaning of words, and to complete an outside reading assignment. Graded pass/unsatisfactory. (Previously listed SS 081. credit hours).

082 Basic Writing Skills II (6 credit hours)
To provide learning activities enabling students to brainstorm for ideas; develop and organize their writing; revise: edit for grammar, sentence structure, and mechanics; and prepare standard acceptable final drafts of their writing. Graded pass/unsatisfactory.

083 Basic Mathematics II (5 credit hours)
Reinforces basic mathematical concepts and computations. Provides instruction in pre-algebra and elementary algebra skills and concepts necessary for students to successfully complete elementary algebra. Graded pass/unsatisfactory.

091 Reading Improvement III (3 credit hours)
Reading and study skills essential for college, emphasizing comprehension, vocabulary, textbook organization, marking, note-taking techniques, and rate improvement. Graded pass/unsatisfactory.

092 Fundamental English Skills (4 credit hours)
Prepares students for success in English 101 by giving them instruction and activities in the fundamentals of the writing process. Graded pass/unsatisfactory.

093 Basic Mathematical Skills III (3 credit hours)
Available to students who need help in arithmetic functions. Topics include properties of whole numbers, primes and composites, arithmetic operations, decimals, ratios, rates, proportions, percents, and elementary algebra functions. Graded pass/unsatisfactory. (Previously listed as SS 093. credit hours).

095 Elementary Algebra (3 credit hours)
Beginning Algebra including: numbers, order of operations, arithmetic laws, evaluation, signed variables, polynomials, factoring, linear equations, isolating variables, lines, systems of linear equations and word problems. Prerequisite: DEV 083 or 093 or Level 2 on Math Placement Test.

Bilingual/BL

111 Essentials of Danish (4 credit hours)
Introduction to Danish with an emphasis on speaking the language.

Economics/EC

200 Economic Life (4 credit hours)
Introduction to economic concepts such as resource allocation, costs, supply, demand, and public goods. Topics include American capitalism, market failures, unemployment, inflation, and taxation. The sequence EC 201, 202, 203 may be substituted. Credit will not be given for EC 200 Economic Life for students who successfully complete EC 201, 202, and 203.

201 Introduction to Economics (3 credit hours)
Fundamental economic principles as an aid in understanding modern society. Introduction to Economics.

202 Microeconomics (3 credit hours)
Fundamental economic principles as an aid in understanding modern society. Introduction to Microeconomics. Prerequisite: EC 201.

203 Macroeconomics (3 credit hours)
Fundamental economic principles as an aid in understanding modern society. Introduction to Macroeconomics. Prerequisite: EC 201.

204 Principles of Microeconomics (4 credit hours)
Fundamental economic principles as an aid in understanding modern society. Introduction to Microeconomics.

205 Principles of Macroeconomics (4 credit hours)
Fundamental economic principles as an aid in understanding modern society. Introduction to Macroeconomics.

290 Economic, Business and Social Issues (4 credit hours)
Analyzes controversy and diversity of opinions regarding economic, business, and social issues shaping the world in which we live. Fosters critical thinking, verbal, and written communication skills through discussion, debate, and writing.

301 Money and Banking (4 credit hours)
Analysis of behavior and significance of money, credit, debt, and the banking system. Prerequisite: EC 204 and 205 (or equivalent course work) or instructor permission.

310 The Global Economy (4 credit hours)
Explores how the global economic environment affects business decisions and how these decisions affect the economy of host and source countries. Analyzes the impact of international trade, foreign direct investment, and global monetary systems. Prerequisite: EC 204 and 205 or equivalent.

315 Intermediate Microeconomics (4 credit hours)
Develops the analytical tools of microeconomics, stressing market behavior of firms, industries, and consumers. Examines the production process and the operation of market mechanisms. Policy implications are emphasized. Prerequisite: EC 204, 205 and MTH 228 (or equivalent coursework) or instructor permission.
317 Intermediate Macroeconomics (4 credit hours)
Analysis of national economic problems including inflation, unemployment, interest rates, and economic stability. Emphasizes the impact of public policy. This is a writing-intensive course. Prerequisite: EC 204 and 205 and MTH 228 (or equivalent coursework) or permission of instructor.

319 Institutional Economics (4 credit hours)
Focuses on interrelationships between market and nonmarket forces, exploring contemporary social, technological, political, and other influences on resource allocation decisions and on economic change. This is a writing-intensive course. Prerequisite: EC 204 and 205 (or equivalent coursework) or permission of instructor.

320 Global Economy (3 credit hours)
Explores how the global economic environment affects business decisions and how these decisions affect the economy of host and source countries. Analyzes the impact of international trade, foreign direct investment, and global monetary systems. Prerequisite: EC 201, EC 202, EC 203 or permission of instructor.

321 U.S. Economic History (4 credit hours)
Analysis of the origins, growth and development of the U.S. economy in an international context from mercantilism to the present. Topics include natural resources transportation, money and banking, labor mobility and immigration, among others. Prerequisite: EC 204 and 205 (or equivalent coursework) or permission of instructor.

326 Economics of Poverty and Discrimination (4 credit hours)
Analysis of economic causes, effects, and cures for poverty and discrimination. Study of trends, economic explanations, and current programs and legislation. Prerequisite: EC 204, 205 and 200 (or equivalent coursework) or permission of instructor.

330 Urban Economic Problems and Prospects (4 credit hours)
Analysis of economic processes that influence urban economic conditions, population movements, economic problems facing metropolitan areas, and alternative problem-solving techniques. Prerequisite: EC 200, 204 and 205 (or equivalent coursework) or permission of instructor.

351 Labor Markets (4 credit hours)
A study of labor market behavior and wage determination, addressing the impact of new technologies, global competition, and deindustrialization on American labor markets. Prerequisite: EC 204 and 205 (or equivalent coursework) or permission of instructor.

352 Labor History and Legislation (4 credit hours)
History of the American labor movement from the early national period to the present, including labor legislation, public policy, and current labor issues. Prerequisite: EC 204 and 205 (or equivalent coursework) or permission of instructor.

370 Environmental Economics (4 credit hours)
Analysis of environmental quality from both microeconomic and systems frameworks. Emphasis on effectiveness of alternative approaches to environmental problems, including specific solutions to particular problems and general approaches to broad problems. Prerequisite: EC 204 and 205 (or equivalent coursework) or permission of instructor.

401 Managerial Economics (4 credit hours)
Application of economic analysis to management decision making. Practical methods and problems are stressed. Prerequisite: EC 204 and 205 (or equivalent coursework) or permission of instructor.

402 Monetary Economics (4 credit hours)
Analysis of monetary policy development and the theory of money market behavior. Emphasizes the relationship between money and national economic conditions. Prerequisite: EC 204, 205 and EC 301 (or equivalent coursework) or permission of instructor.

409 Applied Econometrics (4 credit hours)
Application of statistics and economic theory to measurement, forecasting, and other economic problems. Prerequisite: EC 204 and 205, MS 205, MTH 228 (or equivalent coursework) or permission of instructor.

410 Mathematical Methods for Economics (4 credit hours)
Application of mathematical tools in the formulation of economic theory. Methods used in model construction. Completion of a college algebra course required. Prerequisite: EC 204 and 205 (or equivalent coursework) and college algebra. Some knowledge of calculus desirable.

412 Forecasting Economic Activities (4 credit hours)
Techniques and theories used in forecasting. Practical methods and problems are stressed. Prerequisite: EC 204 and 205 (or equivalent coursework) MS 205 (or equivalent) and MTH 228 or permission of instructor.

419 International Economics (4 credit hours)
This course covers basic trade theories, commercial policy, and theories of international investment and migration, exchange rate determination and open macroeconomics. Special attention is paid to international economic institutions and current financial crises. Prerequisite: EC 204 and 205 or equivalent.
425 Development of Economic Thought (4 credit hours)
Historical development of economic thought and philosophies. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

431 Public Finance (4 credit hours)
Develops a theoretical framework and working knowledge of the economic basis for government activity, government expenditures, programs, and policies, and the financing of government expenditures through taxation. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

435 Comparative Capitalist Institutions (4 credit hours)
Compares economic institutions of industrialized countries including the newly industrialized countries (NIC's). Addresses such issues as industrial relations, roles of state, methods of corporate finance, and social safety nets. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

436 Industrial Organization (4 credit hours)
Analysis of business behavior under various industry structures and government policies. Emphasis on actual case studies. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

440 Regional Economic Growth and Change (4 credit hours)
Regional economic analysis in a policy and planning context. Interdisciplinary approach to analyze the economics of location, inter-regional trade, regional development, urban regions, and growth strategies. Prerequisite: EC 204, 205 and 330 (or equivalent course work) or permission of instructor.

441 International Trade Theory and Policy (4 credit hours)
Provides students with an understanding of the contemporary theory and practice of international trade, and its impact on national economies. Special attention is paid to U.S. trade policy, international economic integration, and multinational corporations. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

442 Open Economy Macro (4 credit hours)
Four main topics are covered in this course: foreign exchange markets and theories of foreign exchange rate determination, balance of payments, the macroeconomics of an open economy, and the international monetary system and problems. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

444 Problems of Economic Development and Transition (4 credit hours)
This course explores the problems of economic development in the third world and in economics in transition from socialism. Topics include hunger, unemployment, environmental degradation, privatization, gender, and ethnicity. Prerequisite: EC 204 and 205 (or equivalent course work) or permission of instructor.

445 Political Economy of Women (4 credit hours)
Examines the changing role of women in the American economy from colonial times to the present, from a multicultural perspective. The combined effects of race, class, ethnicity, gender ideology, technology, education, unionism, legislation, etc., on women's evolving labor market status are investigated. Junior or Senior standing required. Prerequisite: EC 204 and 205 (or equivalent course work) or EC 200 with permission of instructor.

450 Economics of Information Technology (4 credit hours)
Study of information technology as an economic resource. Assessment of the economic impacts of information innovation. Applications to network economics, Internet pricing, industrial structure, electronic commerce, and globalization of markets. Prerequisite: EC 204 and 205 (or equivalent course work) or instructor permission.

477 Economic Studies (4 credit hours)
Examination of special economic issues. Prerequisite: EC 204 and 205 (or equivalent course work) or instructor permission.

478 Honors: Independent Study in Economics (4 credit hours)
Research in economics for fulfillment of the Honors program project requirement. Prerequisite: EC 204 and 205 (or equivalent course work) or instructor permission.

480 Economic Issues (4 credit hours)
Examination of selected economic issues with a view to integrating the discipline. Topics vary.

481 Independent Reading (1 to 4 credit hours)
Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.

482 Independent Reading (1 to 4 credit hours)
Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.

483 Independent Reading (1 to 4 credit hours)
Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.
Center for Economic Education/ECO

391 Economic Studies (1 to 4 credit hours)
Selected economic education issues and topics and techniques for teaching them in the K–12 classroom.

Education/ED

101 Interpersonal Process Learning Laboratory (1 to 2 credit hours)
Explores such areas as listening, communicating, life planning, sexuality, and the helping relationship with emphasis on interpersonal process.

120 Teaching as a Career (1 credit hour)
Designed for prospective teacher candidates to explore teaching as a career choice. Includes an elementary/secondary field placement. Graded pass/unsatisfactory.

210 Education in a Democracy (4 credit hours)
This course explores the role and relationship of education in a democracy to concepts of a civil society, social justice, access to knowledge, and development of democratic character in the young.

214 Introduction to Education (3 credit hours)
Provides an introduction to the teaching profession and the opportunity to examine beliefs, motives, values, and behaviors as they relate to the self as a teacher. Emphasis on philosophical, social, and psychological foundations. Prerequisite: admission to Phase I program.

216 Cultural Diversity: Schools and Society (3 credit hours)
Introduces the make-up of the culturally diverse schools: racial, religious, economic, social, intellectual, physical, age, and sex differences; focuses on implications for education. Prerequisite: Admission to College of Education and Human Services.

218 Learning Theories/Problem Solving (3 credit hours)
Introduction to cognitive, affective, and psychomotor domains of learning, problem-solving models, and associated learning theories as applied to teaching. Prerequisite: ED 214, ED 216, and ED 221.

220 Development of the School Age Student (3 credit hours)
Introduction of basic developmental principles; examination of various stages of development; implications for education; and review of special topics and issues of importance to educators. Graded pass/fail. Prerequisite: ED 214, ED 216, and ED 221. Corequisites: ED 218, 223.

225 Practicum Experience III (1 credit hour)
Field experience in which students apply knowledge of infant, toddler development, family, and community resources to examine issues that affect the educational system. Prerequisite: Successful completion of the first quarter of Phase I.

227 Practicum Experience IV (1 credit hour)
Field experience in which students apply knowledge of constructive behavior, positive discipline, authentic and naturalistic assessment and evaluation to examine issues that affect the educational system. Prerequisite: Successful completion of the first quarter of Phase I.

301 Schooling in a Pluralistic Society: (5 credit hours)
Designed to provide professional educators an orientation to the teaching profession and pluralistic American society as well as an awareness of the total global community. Prerequisite: Sophomore status.

302 Classroom Management (3 credit hours)
Introduction of four discipline models: implication for classroom applications; legal concerns in discipline; and discussion of recent research, practice, and innovation in the area. Prerequisite: Phase I; Corequisite: ED 321.

303 Introduction to Educational Psychology: (5 credit hours)
Cognitive, affective, and psychomotor domains of learning, basic principles and stages of child and adolescent development, and special topics within the social contexts education. The role of research in supporting educational practice.

311 Early Childhood Science: Curriculum and Materials (4 credit hours)
Philosophy, curriculum, and materials for teaching early childhood school science; emphasis on planning and implementation, evaluation, resources and facilities, and current and historical curricular trends in early childhood school science. Field/clinical experience required. Successful completion of all Phase II, quarter I in the ECE program necessary for enrollment. Prerequisite: Natural Science General Education Requirement, MTH 243, 244, SM 145, and all Phase I classes. Corequisites: ED 411, EDE 317 and 323. Suggested Corequisite: ED 415.

315 Early Childhood Children's Literature: Curriculum and Materials (3 credit hours)
316 Early Childhood Language Arts: Curriculum and Materials (3 credit hours)
Study of emerging literacy in early childhood methods and materials to facilitate oral and written communication. Integration of language arts across K–3 grade curricula. Modifications and intervention to meet individual needs. Prerequisite: Gen EDU Composition requirement, Great Books requirement, completion of Phase I classes.

317 Early Childhood Reading: Curriculum and Materials (3 credit hours)
Resources and procedures for pre-reading, reading readiness, and formal reading instruction. Integration of language arts across the K–3 grade curricula. Modifications and interventions to meet individual needs. Prerequisite: General EDU Composition requirement, completion of Phase I classes. Prerequisites: ED 316, ED 417, EDE 321. Formal acceptance into EDU required.

327 Teaching Skills (3 credit hours)
Introduces students to the basic skills of lesson planning and presentation. Students use motivational techniques, questioning skills, alternative teaching strategies, and varied advanced technologies, to design/deliver instructional plans. Lab fee required. Prerequisite: EDT 280.

370 Independent Reading and Minor Problems (1 to 9 credit hours)
Planned reading and/or project under the guidance of a faculty member of the College of Education and Human Services.

400 Education Honors Research (1 to 9 credit hours)
In-depth independent study under the guidance of a faculty advisor. Prerequisite: Admission to honors program in Division of Teacher Education.

405 Current Tendencies in Education (1 to 4 credit hours)
(May be repeated maximum of 12 hrs.) A consideration of current trends and theories in education, and the development of criteria and procedures for their evaluation and implementation.

407 Instruction in Word Study: Phonics (4.5 credit hours)
This course is an in-depth analysis of how people learn printed words related to instructional procedures in schools. Students will apply knowledge in a tutoring situation.

411 Early Childhood Mathematics: Philosophy, Curriculum and Materials (4 credit hours)
Curriculum and materials for teaching mathematics to K–3 grade children based on NCTM Standards and Ohio’s Competency Mathematics Model. Integration of mathematics across the curriculum. Modifications and interventions to meet individual needs. Prerequisite: Natural Science General Education requirements MTH 143, 243, 244 and SM 145. Corequisites: ED 311 and ED 317.

417 Early Childhood Social Studies: Curriculum & Materials (3 to 4 credit hours)

418 Problem Solving in School Mathematics Elementary School (3 to 4 credit hours)
Designed to prepare teachers of mathematics K–8 to teach problem solving as a basic mathematical skill. Emphasis on the teaching/learning of a variety of problem-solving heuristics, applying problem-solving strategies, and using both routine and nonroutine problems in school mathematics. Prerequisite: ED 214, 216, 218, 220 or equivalent, and ED 437 or equivalent.

419 Supervised Teaching Elementary (4 to 14 credit hours)
Student teachers, assigned to a public school full time, work under direct supervision of an experienced classroom teacher. In the fall, student teaching begins in late August to early September with the opening of the public school and continues for approximately 14 weeks to the end of fall quarter. During winter quarter, the period of student teaching corresponds with the academic quarter dates. During spring quarter, student teaching begins on the Monday of the university’s spring break and continues to the end of the quarter with time off according to the public school’s calendar for its spring break. Students may receive 12 credit hours for student teaching in the fall and 10 credit hours for winter and spring quarters. There is no student teaching during the summer. Formal application must be made through the Office of the Director of laboratory experiences according to the following schedule: for fall quarter, apply first two weeks of preceding March; for winter quarter, apply last two weeks of preceding September; and for spring quarter, apply last two weeks of preceding November. Concurrent enrollment in ED 440 and permission of director of laboratory experiences required. Student teaching and ED 440 constitute a full load for the quarter. No other course work may be taken. Prerequisite: Completion of 126 credit hours (at least 12 of which must have been taken at Wright State), participation experiences, the currently required cumulative grade point average and completion of appropriate Phase II courses or equivalent with grades of C or above required in addition, student in special education must also complete appropriate special education courses with a grade of C or above.
420 Studies in English Education (2 to 4 credit hours)  
(Also listed as ENG 485.) Focuses on theoretical issues and practical problems of teaching English at all levels, including the teaching of writing and the teaching of English to speakers of other languages (TESOL).

421 Literature for Middle Childhood (3 credit hours)  
Knowledge of a wide range of literature for middle childhood including the selection criteria and the rationale for classroom practices with children’s literature. Prerequisite: ENG 101, 102, COM 103.

422 Student Teaching Seminar (1 to 3 credit hours)  
An elective seminar discussion of problems and concerns encountered during student teaching to bring professional theory and practice into working perspective. Corequisite: ED 419 and/or 429.

423 Secondary School English: Curriculum and Materials (3 credit hours)  
Curriculum, methods, and materials for language arts in the secondary school; current trends in teaching English. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent.

424 Secondary Speech and Drama: Curriculum and Materials (3 credit hours)  
Curriculum and materials for those preparing to teach speech and drama in secondary schools; curriculum, teaching methods, class organization, producing plays, and co-curricular activities. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent.

425 Modern Foreign Languages: Curriculum and Materials (3 credit hours)  
Modern language curriculum in public schools; purposes, methods, and materials. Completion of a 200-level language course or permission of instructor required. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent. Co/-prereq.: ED 327.

427 European Languages: Children's Literature, Music & Art (3 credit hours)  
Integration of children’s literature, music, and art with emphasis on selection and use of books and related activities in early childhood and pre-K elementary education.

429 Supervised Teaching: Multi-Age  
(4 to 15 credit hours)  
Supervised full-time student teaching in a pre-K–12, multi-age school setting. Prerequisite: Requirements include completion of all Phase I and II courses with grade of C or above; completion of 126 hours (at least 12 of which must have been taken at WSU). Participation in classroom teaching and practicum experiences; achievement of the currently required grade point average. Specific course prerequisites in academic majors vary. See description under major field.  
Enrollment by permission of office of professional field experiences concurrent enrollment in ED 440 is required; however, concurrent enrollment in any other course than ED 440 is not permitted.  
Formal application must be made on line at www.ed.wright.edu/pfe by the posted deadline. Check website for date of student teaching orientation.

431 Secondary School Science: Curriculum and Materials (3 credit hours)  
Curriculum and materials for teaching science; emphasis on objectives, evaluation, planning, resources and facilities, and curricular trends in science education. Completion of two-thirds of major content is required. Prerequisite: ED 214, 216, 218, 220 or equivalent.

432 Improving Reading in the Secondary School (5 credit hours)  
Techniques of diagnosing and correcting reading problems of secondary students. Explores secondary reading problems with emphasis on skill development. Prerequisite: ED 214, 216, 218, 220 or equivalent. Co/-Pre-req: ED 327.

437 Elementary School Mathematics: Curriculum and Materials (3 credit hours)  
Instructional materials and methods of meaningful explanations of mathematics in the elementary school based on structural properties of number and numeration system studies at this level. Completion of two-thirds of major content field is required. Prerequisite: MTH 243 and ED 214, 216, 218, 220 or equivalent. Co/-Pre-req: ED 327.

438 Secondary School Mathematics: Curriculum and Materials (3 credit hours)  
Curriculum, methods, and materials in the mathematics of grades 7–12. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent.

439 Secondary School Social Studies: Curriculum and Materials (3 to 4 credit hours)  
Objectives, principles, and trends in secondary social studies education. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent.
440 The Teacher in School and Society
(1 to 4 credit hours)
An exit seminar preparing the student to enter the profession via consideration of societal issues affecting education and personal readiness through individual development of a portfolio. Graded pass/fail. Corequisite: ED 419 and/or 429.

448 Improvement of Social Studies Instruction
(3 credit hours)
In-depth analysis of new social studies resource materials and curriculum models with emphasis on improving instruction. Prerequisite: For Elementary—ED 417; for secondary—ED 439.

458 Practicum in Education (1 to 9 credit hours)
Supervised teaching experience for students who have completed student teaching (or its equivalent) and are seeking certification in another field. Topics vary.

460 Practicum in English Education
(1 to 4 credit hours)
Students are assigned to an instructional class that focuses on the teaching of English to speakers of other languages (TESOL) for a supervised practicum experience. Graded pass/unsatisfactory. Prerequisite: ED 420.

470 Curriculum and Instruction Workshop
(1 to 6 credit hours)
Intensive study of a selected area of the school curriculum to meet the particular needs of the participating preservice and in-service teachers, administrators, and curriculum supervisors. Topics vary.

Education—Early Childhood/EDE

221 Practicum I: ECE (1 credit hour)
Placement in which students observe and participate in the dynamics of a classroom; observe stages of cognitive, socio-emotional, linguistic, and physical development in children; as well as observe diverse learning and teaching styles. Graded pass/unsatisfactory. Formal acceptance to CEHS and permission to begin Phase I of the ECE licensure program needed. Prerequisite: EDT 280. Corequisites: EDE 230, 300, 315 and 223.

223 Practicum II: ECE (1 credit hour)
Placement in which students observe and participate in the education of children with special needs in various environments (self-contained, resource, inclusion), by delivering remediation, reinforcement, tutoring and enrichment for individuals and small groups. Graded pass/unsatisfactory. Formal acceptance to CEHS and permission to begin Phase I of the ECE licensure program needed. Prerequisite: EDT 280. Corequisites: EDE 230, 300, 301, 315 and 221.

225 Practicum III: ECE (1 credit hour)
Placement in which students observe and participate in developmentally appropriate programming for infants and toddlers, focusing on language and social development. Students acquire information about community resources for young children and families. Graded pass/unsatisfactory. Formal acceptance to CEHS and satisfactory completion of Phase I, first quarter is necessary for enrollment. Prerequisite: EDE 221, 223, 230, 300, 301 and 315.

227 Practicum IV: ECE (1 credit hour)
Placement in which student observe and apply knowledge of motivation and management strategies (constructive, positive discipline, redirection, etc.) as well as formal and informal evaluation and assessment techniques with individuals and small groups. Graded pass/unsatisfactory. Prerequisite: EDE 225, 231, 303 and 307. Corequisites: EDE 302 and 464. Recommended Corequisites: ED 327 and EDS 459.

230 Introduction to Early Childhood Education
(3 credit hours)
Social, economic, historical, and political issues affecting EDE. Legal requirements, state/federal and professional guidelines, and standards and regulations in the development and evaluation of programs for young children from birth to eight years. Prerequisite: EDT 280. Corequisites: EDE 221, 223, 300, 301 and 315.

231 Developmentally Appropriate Programming in ECE: Birth–5YRS (3 credit hours)
Introduction to developmentally and individually appropriate environment, organizational and curricular design of EDE programs for 0–5 years old. Primary focus on organization, administration and curriculum in pre-school programs (3–5 year olds). Prerequisite: EDE 221, 223, 230, 300, 301 and 315. Corequisites: EDE 225, 303 and 307. Recommended corequisite: ED 315.

300 Schooling in a Culturally Diverse Society
(3 credit hours)
A historical, social, economic, and philosophical orientation to pluralistic society and within a global community. Issues affecting the professional educator, i.e. technology, accountability, legal rights and responsibilities, unionization, school funding, etc. Prerequisite: Behavioral Science Gen. Ed. and EDT 280. Corequisites: EDE 221, 223, 230, 301 and 315.
301 Human Growth and Development: Pre-Natal Through Early Childhood (3 credit hours)

302 Managing Young Children's Behavior in the EC Setting (3 credit hours)
The study of classroom behavior management within the framework of child development, developmentally appropriate practices, and constructivist education including pro-active planning and organization and appropriate expectations for young children. Prerequisite: EDE 225, 231, 303, 307. Corequisites: EDE 227, EDE 464. Recommended corequisites: ED 327 and EDS 459.

303 Social Development and Play in Early Childhood Education (3 credit hours)

307 Language Development & Communications Disorders in ECE (3 credit hours)
Speech and language development, causes and effects of communication disorder; formal/informal evaluation, intervention strategies for the classroom teacher. Assistive technologies for children with speech and language disabilities. Formal acceptance to CEHS and satisfactory completion of Phase I, first quarter is necessary for enrollment. Prerequisite: EDE 221, 223, 230, 300, 301 and 315. Corequisites: EDE 225, 231, and 303. Recommended corequisite: ED 315.

309 Emerging Literacy in Early Childhood (4 credit hours)
Understanding language and literacy growth. Encouragement of interest in reading, designing and implementing readiness, and early literacy instruction, including pre-reading and pre-writing behaviors. Field placement required. Prerequisite: ED 214, 216, 218, 220 and EDE 230 or equivalent.

312 Math and Science in Early Childhood Education (4 credit hours)
Examination of the theoretical basis and appropriate content of math and science learning for young children. Field placement required. Prerequisite: ED 214, 216, 218, 220 and EDE 230.

315 Young Children with Special Needs (3 credit hours)
Causes and effects of various developmental disabilities, theories and legalities of early intervention services 0-8, service delivery models, family and agency involvement. Prerequisite: EDT 280. Corequisites: EDE 230, 300, 301, 221 and 223.

317 Meeting the Individual Needs of Young Children (3 credit hours)
Curricular interventions and adaptations, meeting individual needs of all children in the early childhood environment including implementation of IEPs and IFSPs. Includes alternative presentation styles, modification, remediation, assistive technologies, enrichment, etc. Prerequisite: All Phase I classes and ED 327. Corequisites: ED 311, 411 and EDE 323. Suggested corequisite: ED 415.

321 Practicum V: ECE (1 credit hour)
Placement in which students design and implement strategies for individuals, small and large groups in language arts and social studies including modification of curriculum and presentation style to provide for individual needs of children. Graded pass/unsatisfactory. Prerequisite: All Phase I classes. Corequisites: ED 316, 417. Suggested corequisites: EDE 401 and ED 407.

323 Practicum VI: ECE (1 credit hour)
Placement in which students implement strategies introduced in methods classes for individual, small and large groups requiring accurate content presentation, use of technology, modification of presentation style and curriculum providing for children’s individual needs. Graded pass/unsatisfactory. Prerequisite: All Phase I classes. Corequisites: ED 311, 411 and 317. Suggested Corequisite: ED 415.

401 The Family and Community in Early Childhood Education (3 credit hours)
The role of family behaviors and involvement in the care/education of the young child. Special emphasis on the role of community agencies in family decision-making and goal setting. Prerequisite: All Phase I classes. Suggested corequisites: ED 316, 317, 417, EDE 321 and ED 407.

419 Student Teaching: Early Childhood Education (10 to 12 credit hours)
Students are assigned to a public or certified private facility under direct supervision of experienced teachers for a total of 10–12 weeks in two different age ranges (pre-K–K and 1–3 grades). Graded pass/unsatisfactory. Prerequisite: Approval by CEHS.
464 Evaluation and Assessment in Early Childhood
EDU (3 credit hours)

470 Workshop in Early Education (1 to 4 credit hours)
Intensive practical study in a selected area of early education. May be taken for letter grade or pass/unsatisfactory.

Educational Leadership/EDL

301 Professional Skills in Organizational Leadership
(4 credit hours)
Elements of organizational communication including verbal and non-verbal communication. Tools of effective communication including strategies to remove barriers and biases in organizational communication.

302 Contemporary Issues in Leadership
(4 credit hours)
This course introduces students to contemporary leadership theories, concepts, and issues. Students will examine contemporary societal and organizational forces and challenges that affect modern organizations.

303 Organizational Leadership Assessment
(4 credit hours)
This course is designed to provide students the opportunity to learn appropriate methods for assessment with organizational settings. This includes both individual and organization-wide assessment.

304 Developing and Presenting Effective Training
(4 credit hours)
This course presents strategies to develop and present effective training. It includes program implementation, assessment, evaluation and supervision. Prerequisite: MGT 302.

410 Paraprofessional Staff Training
(1 to 4 credit hours)
Provides an orientation to the university for new Residence Services paraprofessionals to prepare them to be effective in their roles. Participants are exposed to the various student services available on campus as well as aspects of student development, the mission of the university, Residence Services, and New Student Orientation. Topics vary. May be taken for letter grade or pass/unsatisfactory.

411 Student Development for Residence Life Programs (1 to 4 credit hours)
Provides an overview of various student development concepts and functions within a residential setting. Focuses on knowledge and skills specifically for paraprofessional staff. Topics include community development, multiculturalism, peer counseling, interpersonal communication, conflict mediation and resolution, developmental programming, and developmental discipline. Topics vary. May be taken for letter grade or pass/unsatisfactory.

494 Leadership Development Seminar (4 credit hours)
This course provides a capstone experience for students in the Organizational Leadership Program. It focuses on developing the individual as a leader, and prepares the student for workplace marketability and organizational change management. Prerequisite: EDL 301, EDL 302, EDL 303 and EDL 304.

495 Leadership in Practice: The Capstone
(4 credit hours)
In this course, students will draw upon their experiences from all of their organizational leadership courses to demonstrate their competency as administrative leaders by applying and integrating classroom material to an actual administrative problem. Prerequisite: EDL 301, 302, 303, 304 and 494.

Education—Special Education/EDS

333 Learning Differences: Introduction
(3 credit hours)
An introduction to the history, laws, terminology, and best practice for the education of students with mild to moderate, moderate to intensive, or gifted educational needs. Also covered are inclusive education practices.

444 Instructional and Behavioral Management of Exceptional Individuals (3 credit hours)
 Prepares special educators to meet the instructional and behavioral management demands particular to working with exceptional individuals, including those with severe behavior difficulties. Prerequisite: ED 302 and EDS 455 or 451 (EDS 455, 451 can be taken concurrently).

455 Nature and Needs of the Mildly Handicapped (2 to 4 credit hours)
Causes and effects of specific learning and language disabilities, severe behavior disorders, and mild developmental disabilities. Study of teaching strategies appropriate for these individuals. Prerequisite: ED 220 and ED 218.
459 Educational Collaboration (3 credit hours)
Techniques of collaborative consultation needed to enhance communication with exceptional individuals, parents, and educational team members. Prerequisite: enrollment in Early Childhood Education program or H.P.R. program.

470 Workshop in Special Education
(1 to 4 credit hours)
Intensive practical study in a selected area of special education. May be taken for letter grade or pass/unsatisfactory.

Educational Technology/EDT

110 The Electronic Library (2 credit hours)
Prepares students to take advantage of the latest electronic information technology to efficiently find, evaluate, and use information resources available in electronic or traditional formats. Titles vary.

204 PC Operating Systems for Educators
(2 credit hours)
Strategies and techniques for teaching and using PC operating systems software to enhance productivity in practical classroom-related applications.

205 Word Processing for Educators (2 credit hours)
Word processing fundamentals and terminology. Activities designed for the classroom include Internet resources for teachers and basic Web page design.

206 Integrated Database Applications for Educators
(2 credit hours)
Emphasizes the creation of database structures, manipulation of records, and the generation of reports for the classroom and educational administration.

207 Integrated Spreadsheet Applications for Educators
(2 credit hours)
Provides an understanding of the major features of a popular electronic spreadsheet program in organizing, analyzing, and reporting data useful in teaching applications.

208 Presentation Graphics Software for Educators
(2 credit hours)
Creation of electronic presentations and instructional material for the classroom. Topics include Internet resources for educators and the basics of Web page creation and design.

209 The Internet: Applications for Educators
(2 credit hours)
Internet tools and resources are explored in navigating the superhighway to research and retrieve information of practical value in classroom applications and professional development.

211 Basic Keyboarding and Document Formatting
(3 credit hours)
Introduction to the keyboard and the development of keyboarding speed and accuracy. Basic document formatting with word processing software is practiced in the production of correspondence, reports, and tabulations.

212 Advanced Keyboarding and Desktop Publishing
(3 credit hours)
Acquired skills in keyboarding, word processing, and document formatting are reinforced in the production of documents with graphics and other advanced features. Skill building activities continue to build keyboarding speed and accuracy. Two lab hours per week required.

220 Basic Word Processing Applications
(3 credit hours)
Essential features of word processing software are introduced and practiced in the creating of a variety of documents for business and personal use. Prerequisite: EDT 212 or permission of instructor.

221 Intermediate Word Processing Applications
(3 credit hours)
In-depth study and application of the advanced features of word processing software. Editing and composing activities emphasize critical thinking and communication skills. Two lab hours per week required. Prerequisite: EDT 220.

222 Advanced Word Processing Application/Desktop Publishing
(3 credit hours)
Principles of typography and design supplement advanced work processing functions in desktop applications that include newsletters, flyers, brochures, manuals, presentation media, and Web publishing. Two lab hours per week required. Prerequisite: EDT 221.

280 Classroom Applications of Computer-Based Technology
(3 credit hours)
Instruction to the use of computer-based technology in K–12 instruction. Focus is on selecting courseware and integrating it into lessons.

305 Integrated Applications in Business/Office Technology
(4 credit hours)
Comprehensive applications office software through integrated projects and exercises that include access to Internet tools and resources for business and the classroom. Two lab hours per week required. Lab hours added to include hands on practice with content-related software and activities. Prerequisite: EDT 205 or EDT 221; EDT 206, 208 or instructor permission.

306 Office and Records Management Systems
(3 credit hours)
Procedures for controlling both paper and electronic business records and the analysis of the records cycle, retention programs, storage and retrieval processes and systems, and electronic imaging in records management.
335 Business Mathematics for Business and Marketing Teachers (3 credit hours)
   Designed for business and marketing education majors to review, demonstrate, and develop strategies in teaching math fundamentals and consumer math.

370 Independent Study (1 to 4 credit hours)
   Student pursues an individualized course of study under the close supervision of a faculty member. It may include extensive readings, a research project, a paper, or a production. May be taken for letter grade or pass/unsatisfactory.

433 Curriculum and Materials: Accounting/Basic Business and Marketing Education (4 credit hours)
   Instructional strategies in using technology as a tool in teaching and learning. Topics include the role of state and professional guidelines in curriculum development. Completion of two-thirds of major content field required. Two hour lab per week required. Prerequisite: ED 301, 303 or equivalent.

434 Curriculum and Materials: Office Procedures & Technology (4 credit hours)
   Instructional strategies and trends in curriculum development as affected by current office technology, employer expectations, and state and professional guidelines. Field/clinical experiences required. Two hours lab per week required. Prerequisite: EDT 433, EDT 212.

435 Business Education Curriculum and Materials: Shorthand, Transcription, and Secretarial Procedures (3 credit hours)
   Curriculum, methods, and materials in teaching shorthand, transcription, and secretarial procedures. Field/clinical experiences required. Completion of two-thirds of major content field is required. Prerequisite or corequisite: ED 322; OA 203, 213. Corequisite/prerequisite: ED 327.

436 Production of Instructional Material (2 credit hours)
   A non-technical course with emphasis on production of locally made materials for classroom use including mounting, lettering, computer graphics, and transparency production.

455 Television Production (4 credit hours)
   Survey of television production from a single camera, remote production perspective, including use of editing equipment.

463 Survey of Adolescent Literature (3 credit hours)
   Study of books appropriate for students ages 12-21. Survey and evaluation of the literature, studies of reading interests, and issues related to this field of literature.

470 Workshop in Educational Technology (1 to 6 credit hours)
   Intensive, practical study in a selected area of educational or applied technology. Titles vary.

485 Computers for Educators (3 credit hours)
   Computer software and hardware systems and their uses are discussed with emphasis on their effects on education and the teacher.

487 Introduction Basic for Educators (4 credit hours)
   Introduction to computer programming in the Basic language including programs and techniques useful to educators. Topics include techniques for program design, flowcharting, coding, testing, and documentation.

491 Library Media Practicum in the Elementary School (1 to 12 credit hours)
   Supervised student teaching in an elementary public school library media center.

492 Library Media Practicum in the Secondary School (1 to 12 credit hours)
   Supervised student teaching in a secondary public school library media center.

Electrical Engineering/EE

140 Principles of Electrical Engineering (3 credit hours)
   Provides a practical introduction to important applications, and hands-on experience with components and assembly of electrical systems. Laboratory experience is emphasized.

250 Engineering Problem Solving with Mathlab (2 credit hours)
   Provides engineering students an extensive hands-on experience of MATLAB. Topics include relational and logic operations, array manipulation, low-level I/O, graphics, and symbolic manipulations. Prerequisite: MTH 229 (calculus I).

260 Digital Computer Hardware/Switching Circuits (4 credit hours)
   (Also listed as CEG 260.) Topics include switching algebra and switching functions, logic design of combinational and sequential circuits using TTL, combinational logic design with MSI and LSI, busing, storage elements, and instrumentation. Three hours lecture, two hours lab. Prerequisite: CS 142, 220, 240 or EGR 153.

301 Circuit Analysis I (4 credit hours)
   Basic elements and laws, circuit analysis techniques and concepts, energy storage elements, first and second order circuits, sinusoidal steady state analysis. Prerequisite: MTH 233, PHY 242; corequisite or postrequisite: EE 302.

303 Circuit Analysis II (3 credit hours)
   Circuit review, alternating current concepts, computer-aided circuit analysis, two-port networks, power. Prerequisite: EE 301 and EE 302; corequisite or postrequisite: EE 304.
321 Linear Systems I (4 credit hours)
Considers systems in a broad context including linear, nonlinear; variant, invariant; and analog and discrete. Various approaches to system and signal modeling are also discussed with emphasis on the Fourier transform technique. Prerequisite: EE 301, 302.

322 Linear Systems II (4 credit hours)
Discrete time signals and systems, the z-transform, input/output theory, discrete Fourier transform, IIR and FIR filter design, relationships, and sampling. Prerequisite: EE 321.

326 Random Signals and Noise (4 credit hours)
Provides a practical introduction to the concepts of random events, characterization of stochastic signals, first and second order moment descriptions of random processes, and input/output descriptions of random signals and noise in linear systems. Prerequisite: EE 321.

331 Electronic Devices (3 credit hours)
Introduction to basic solid-state electronic devices. Fundamentals necessary for comprehension and further study of modern engineering electronics. Major topics include carrier flow in semiconductors, p-n junction theory, semiconductor diodes, bipolar junction transistors, field effect transistors, biasing, and introduction to amplifiers. Prerequisite: EE 301 and EE 302. Corequisite: EE 332.

345 Electromagnetics (4 credit hours)
Electrostatics and magnetism; induced electromotive force. Maxwell’s equations and their physical interpretation and application. Prerequisite: EE 301, EE 302, MTH 232.

346 Transmission Lines, Waveguides, and Radiating Systems (4 credit hours)
Plane waves in free space and matter. Transmission line equations and application of Smith chart. Wave propagation in rectangular waveguides. Introduction to radiating systems, including dipole and loop antennas. Rudimentary design of typical systems containing transmission lines, waveguides, and antennas. Prerequisite: EE 345.

401 Electronic Circuits and Devices (3 credit hours)
Application of modern electronics to instrumentation and data collection. Topics include semiconductor devices, small signal and power amplifiers, operational amplifiers, power supplies, digital fundamentals, and microprocessors. For nonmajors. Prerequisite: EE 301 and EE 302; corequisite: EE 402.

412 Industrial Controls and Automation (4 credit hours)
For each student to gain a working knowledge of industrial controls and automation. Focus is on developing an understanding of wiring diagram creation, hardware selection, and programmable logic controller design and operation. Includes laboratory. Prerequisite: EE/CEG 260 or EE 401 and 402.

413 Control Systems I (3 credit hours)
Introductory course providing students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling including state variable representation, time response, root locus, and introduction to design. Prerequisite: ME 213 and EE 321; corequisite or postrequisite: EE 414.

415 Control Systems II (3 credit hours)
Using Control Systems I background, this course concentrates on controller design, in both the time and frequency domains, using Nyquist, Bode, and root locus techniques. Prerequisite: EE 413 and EE 414.

417 Digital Control Systems (3 credit hours)
Samples spectra and aliasing, analysis and design of digital control systems using root locus and transform techniques; discrete equivalents of continuous controller, quantization effects, and introduction to programmable logic controllers. Prerequisite: EE 322, EE 415.

418 Control Systems Design Project (4 credit hours)
A project-oriented design course integrating design methodology with the principles of controller design developed in previous courses. Topics include project planning, system specs, documentation, design reviews, written and oral reports, and system test. Two hours lecture, four hours lab. Prerequisite: EE 417 and EE 420.

419 Introduction to Fuzzy Logic Control (4 credit hours)
(Also listed as CEG 419.) Foundations and philosophy of fuzzy logic and applications to control theory. Relationships between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of fuzzy logic control applications. Three hours lecture, two hours lab. Prerequisite: EE 413 and 414.

421 Communication Theory (4 credit hours)
Analysis of communication systems using the Fourier transform and the convolution integral. Discussion of Nyquist’s sampling theorem and an introduction to binary pulse code modulation (PCM). Various analog (AM, SSB, WBFSM) and digital (BPSK, AK, FSK) modulation techniques are also discussed and analyzed. Prerequisite: EE 321.
431 Electronic Circuits (3 credit hours)
Theory and application of basic engineering electronics developed for discrete and integrated circuits. Topics include bipolar and field effect transistor amplifier analysis and design, frequency response, and multi-stage and feedback amplifiers. Prerequisite: EE 321, EE 331 and EE 332. Corequisite: EE 303, EE 304 and EE 432.

435 Design and Implementation of Analog & Digital Filters (4 credit hours)

436 Digital Signal Processing: Theory, Application and Implementation (4 credit hours)
Introduces the principles and applications of digital signal processing (DSP) from the design and implementation perspective. Topics include analog-to-digital/digital-to-analog converters and digital filters. Fourier analysis algorithms, and real-time applications, all implemented on a TMS320C30 floating point DSP chip. Prerequisite: EE 322; CEG 220 or CS 240.

444 Linear Integrated Circuits (4 credit hours)
Theory and applications of linear integrated circuits. Topics include ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators. Three hours lecture, two hours lab. Prerequisite: EE 431 and 432.

445 Electromagnetic Compatibility (4 credit hours)
Identification of possible sources of electromagnetic interference (EMI) in an electronic device or system. Fundamental EMC design principles concerning conducted and radiated emissions, reduction of susceptibility to EMI and EMI shielding. Prerequisite: EE 345.

446 Microwave Circuit Design (4 credit hours)
Review of Smith chart, introduction to microstrip lines, impedance matching, power gain equations, stability considerations, and design methods for amplifiers and oscillators. CAD is used. Prerequisite: EE 346.

447 Antenna Theory and Design (4 credit hours)
Linear dipole antennas, antenna arrays, thin-wire antennas, moment method analysis examples (e.g. dipole, folded dipole, etc.), and broadband and frequency-independent antennas. Computer-aided design and analysis of wire antennas, feed networks, and antenna arrays using antenna CAD software. Prerequisite: EE 346.

448 RF/Microwave Systems Design Projects (4 credit hours)
A project-oriented design course, integrating design methodology with the principles of microwave circuit analysis and electromagnetic wave propagation developed in pervious courses. Formal documentation, design reviews, and reporting are required. Prerequisite: EE 446.

449 Pulse and Digital Circuits (4 credit hours)
Design, analysis, and application of pulse and switching circuits using both Field Effect Transistors (FETs) and Bipolar Junction Transistors (BJTs). Transistor level design of digital integrated circuits including NMOS, CMOS, TTL, and ECL logic families. Design of digital interface and buffer circuits. Transmission line effects in digital applications. Three hours lecture, two hours lab. Prerequisite: EE 431 and EE 432.

451 Digital Systems Design (4 credit hours)
(Also listed as CEG 360.) Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the design of digital systems. Three hours lecture, two hours lab. Prerequisite: EE 260.

454 VLSI Design (4 credit hours)
(Also listed as CEG 454.) Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI. Prerequisite: EE 431, EE 432 and EE 451.

455 Electronic Circuits Design Project (4 credit hours)
A project-oriented design course, integrating design methodology with the principles of integrated circuit design, developed in previous courses. The focus of the course is an integrated circuit design project including the topics of project selection, planning and management, system specification, documentation, design reviews, written and oral reports, and testing. Two hours lecture, four hours lab. Prerequisite: EE 454.

456 Introduction to Robotics (4 credit hours)
(Also listed as CEG 456, ME 456.) An introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control. Prerequisite: Senior standing in College of Engineering and Computer Science and MTH 253; proficiency in Pascal, C, or Fortran Programming.

458 Digital Integrated Circuit Design with PLDS and FPGAS (4 credit hours)
(Also listed as CEG 458.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the laboratory portion of the course. Prerequisite: EE 451.
459 Integrated Circuit Design Synthesis with VHDL
(4 credit hours)
(Also listed as CEG 459.) Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) will be used in the laboratory portion of the course. Prerequisite: CS 220, C programming or equivalent and EE 260.

473 Communication Systems Design (4 credit hours)
Concepts and techniques of probability theory are reviewed and extended to random process and information theory. Baseband digital PCM technique, selected digital RF modems, and introduction to communication networks are presented. Prerequisite: EE 421 and STT 363.

475 Introduction to Radar Systems (3 credit hours)
Study of the radar equation, antenna patterns, target cross sections and system losses, radar measurements, pulse Doppler and coherent techniques, detection probability and signal-to-noise ratio, side lobe clutter, synthetic arrays, and pulse compression techniques. Prerequisite: EE 322 and senior standing.

476 Communication/Signal Processing Design Projects (4 credit hours)
A project-oriented communication and signal processing design course involving a problem definition stage, an analysis and design stage, and a final implementation stage. Topics include project selection, planning and management, system specification, design reviews, written and oral reports, and final system testing. Two hours lecture, four hours lab. Prerequisite: EE 436 and either EE 435 or EE 473.

478 Coding Theory (3 credit hours)
(Also listed as MTH 456, CEG 478.) Examines the essentials of error-correcting codes and the study of methods for efficient and accurate transfer of information. Topics to be covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes. Prerequisite: MTH 253 or MTH 355 (or equivalent).

480 Selected Topics in Electrical Engineering
(1 to 4 credit hours)
Prototype offering for a new course in electrical engineering. Topics and prerequisites vary.

499 Special Problems in Electrical Engineering
(1 to 4 credit hours)
Special problems in advanced engineering. Topics vary.

Engineering/EGR

101 Engineering and Computer Science Orientation
(1 credit hour)
Introduction to the College of Engineering and Computer Science and overview of the degree programs offered. Provides information on degree entrance requirements, academic policies and procedures, study and success strategies, team building skills, interpersonal communication, engineering ethics and honors, student clubs, cooperative education opportunities, and career guidance.

153 FORTRAN Programming (4 credit hours)
Introduction to the use of digital computers with structured FORTRAN as the programming language. Algorithm development and engineering problem-solving techniques. Use of library subroutines and graphical displays. Prerequisite: MTH 229 corequisite.

190 Fundamentals of Engineering (4 credit hours)
Provides a practical exposure to important applications and hands-on laboratory experience to give students an introduction to computer science and engineering. Teamwork and problem solving are emphasized.

191 Fundamentals of Engineering II (3 credit hours)
Continuation of EGR 190. Provides an introduction to engineering practice and the opportunity to examine different engineering fields. Includes freshman design experience culminating in a team competition. May be taken for a letter grade or pass/unsatisfactory. Prerequisite: EGR 190.

199 Special Topics in Engineering
(1 to 4 credit hours)
Topics may vary. May be taken for letter grade or pass/unsatisfactory.

335 Technical Communications for Engineers and Computer Scientists (3 credit hours)
A modular approach to oral and written communication of complex technical information to an expert audience. Includes describing technical mechanisms and processes; designing and using tables, graphs, charts, and figures; producing technical proposals, progress reports, feasibility reports, and formal reports; and doing technical briefings. Prerequisite: ENG 101, ENG 102, and at least sophomore standing in the College of Engineering and Computer Science.

482 Engineering Fundamentals (3 credit hours)
A review of the fundamental concepts covered in an engineering curriculum to help students prepare for the fundamentals of engineering examination. Senior standing in an engineering program or graduation from an engineering program required. May be taken for a letter grade or pass/unsatisfactory.
499 Special Problems in Engineering
(1 to 5 credit hours)
Special problems in advanced engineering. Topics vary. May be taken for letter grade or pass/unsatisfactory.

Environmental Health/EH

205 Environmental Science and Society
(4 credit hours)
This course provides students with facts necessary to understand environmental problems and the ethical, social, political and technological bases for their solution—using examples from many cultures from around the world.

292 Introduction to Environmental Health
(1 credit hour)
Introduction to the role of the environmental health profession in meeting current problems in public health and environmental quality.

360 Water Quality and Treatment
(3 credit hours)
Relationship of physical and biotic environments to design and operation of systems and procedures employed in maintenance and promotion of a quality, healthful human environment. Emphasis on water quality control and waste disposal methods. Prerequisite: BIO 252, CHM 123.

362 General Environmental Health
(4 credit hours)
Relationship of physical/chemical/biotic environments to design/operation of systems and procedures employed in maintenance/promotion of quality, healthful human environments. Emphasized: food/dairy sanitation, solid waste, institutional/housing/recreational sanitation, and vector control.

364 Solid and Hazardous Waste Management
(3 credit hours)
Examines the fundamentals of solid, infectious, and hazardous waste management. Topics covered include regulatory history, regulatory processes, environmental audits, requirements for waste generators, transporters, treatment/storage/disposal facilities, and pollution prevention concepts.

366 Environmental Science Internship
(9 credit hours)
One-quarter internship in a cooperating environmental or public health agency or industrial organization. Supervised by faculty and professional environmentalists. Reports and specific assignments determined in cooperation with internship director. Graded pass/unsatisfactory. For environmental health majors only.

368 Hazardous Waste Operations and Emergency Response
(4 credit hours)
Covers the operation of managing hazardous materials and emergency response in the workplace or at spills or hazardous waste sites. Satisfies OSHA training requirements No. 29 CFR 1910.120.

401 Topics in Environmental Science
(1 to 5 credit hours)
Advanced topics of current interest in the environmental sciences. Topics vary. May be taken for a letter grade or pass/unsatisfactory.

431 Risk Assessment
(3 credit hours)
Studies the determination of quantitative risk to humans and the environment. Approaches currently used in regulatory activities are described, showing method of hazard identification, sampling, data evaluation, exposure assessment, toxicity assessment, and risk characterization. Minimum of two BIO courses and completion of freshman chemistry required. Prerequisite: Minimum of two BIO courses and completion of freshman chemistry.

432 Risk Assessment II
(3 credit hours)
Designed as a follow-up course to EH 431. Studies of key components of risk assessments. will include pharmacokinetic modeling, environmental fate and transport modeling, low dose extrapolation, and risk communication. Prerequisite: EH 431.

451 Environmental Management and Risk Communication
(3 credit hours)
Enlarges students' environmental perspectives by focusing on management issues as they relate to air, water, and land resources, including ethics, policy, and economics, as well as questions relating to specific resources.

453 Natural Resources Management
(3 credit hours)
Lecture/seminar course covering principles of wildlife, fisheries, and forestry management. Major topics include basic ecological principles, population dynamics and analysis, habitat assessment, and ecosystem and people management. Prerequisite: BIO 306.

454 OSHA Compliance
(1 credit hour)
Intended for persons having management responsibility for occupational safety and health; this course provides practical application of the theories of safety and health law, and suggestions for their real world application.

461 Problems in Environmental Health
(2 credit hours)
Seminar/workshop in professional aspects of environmental health. For environmental health majors only. Prerequisite: EH 366 or consent of instructor.

462 Epidemiology and Community Health
(3 credit hours)
Communicable and occupational diseases of contemporary importance; includes epidemiological investigation, environmental considerations, and control procedures. Prerequisite: EH 360, EH 362 and STT 264 or permission of instructor.
463 Public Health Organization (3 credit hours)
Lecture/seminar course covering principles of public health organization and administration, public health law, comprehensive health planning, and the community services provided by health-related agencies. May be taken for letter grade or pass/unsatisfactory.

466 Fundamental Occupational Health and Safety (3 credit hours)
Introduction to accident recognition, evaluation, and control in the work environment. Emphasis on methods of hazard recognition and control management. Prerequisite: CHM 123.

468 Advanced Occupational Health and Safety (3 credit hours)
Introduction to industrial hygiene. Emphasis on routes of entry into the human body and physiological effects of industrial pollutants. Prerequisite: CHM 123.

472 Air Quality Management (3 credit hours)
Designed to provide a broad overview of the science of air quality and its management: includes atmospheric pollutants, dispersion, health and welfare effects, air-quality monitoring, source control, regulation, and indoor air pollution.

492 Environmental Issues Seminar (2 credit hours)
Students will gain a better understanding of the controversies surrounding many current environmental issues, while also enhancing their library research, presentation, and advocacy skills.

499 Special Problems in Environmental Health Science (1 to 3 credit hours)
Course allows students opportunity to perform research in environmental health science topics.

English/ENG

094 English as a Second Language: Speaking (4 credit hours)
Basic course in spoken English, both production and comprehension. For nonnative speakers of English only.

095 Classroom Communication for International Teaching Assistants (3 credit hours)
Introduction to effective communication skills for the classroom, emphasizing oral proficiency, teaching skills, and culture of the American classroom. Placement based on performance on the Wright State Oral Proficiency test for International Teaching Assistants.

097 English as a Second Language: Basic Writing (4 credit hours)
Basic course in written communication with an emphasis on sentence structure. For nonnative speakers of English only.

098 English as a Second Language: Advanced Writing (4 credit hours)
Course in written communication with an emphasis on grammatical structures, organizational skills, and topic development. For nonnative speakers of English only.

101 Academic Writing and Reading (4 credit hours)
Introduces students to principles of effective written communication and critical reading. Stresses invention, drafting, revising, editing, and self-assessment, along with effective critiquing and collaborating.

102 Writing in Academic Discourse (4 credit hours)
Adapts principles introduced in ENG 101 to typical university writing tasks. Stresses writing effectively within various contexts, reading critically, and using source materials effectively in argumentative and research writing. Prerequisite: Grade of C or better in ENG 101.

190 Issues and Ideas in Literature (3 credit hours)
Readings in literature dealing with a single theme or a specific problem: for example, crisis and confrontation in American literature, the images of the hero in literature, the supernatural and occult in literature, and sex and censorship in literature. Prerequisite: ENG 102.

199 Topics in English (1 to 4 credit hours)
Problems, approaches, and topics in the fields of English. Topics vary. May be taken for letter grade or pass/unsatisfactory.

201 Contemporary Literature (3 credit hours)
Readings in American and British fiction, poetry, and drama of the present and the recent past: for example, American novel since 1945, literature of the absurd, protest literature, and contemporary poetry. Prerequisite: ENG 102.

202 The Literary Tradition (3 credit hours)
Readings in British and American literature: for example, Shakespeare, American masterpieces, British novel, and readings in biography. Prerequisite: ENG 102.

203 World Literature (3 credit hours)
Readings in world literature: for example, the literature of Africa, the international best seller, and the hero in world myth. Prerequisite: ENG 102.

204 Great Books: Literature (4 credit hours)
Introduction to interpreting literature, using works from various periods and cultures, viewed in their social and historical contexts and read for their enduring interest.

205 Afro-American Literature (3 credit hours)
210 Introduction to Poetry (3 credit hours)
Poetry as a type of literature together with an introduction to various approaches to the enjoyment of poetry. Prerequisite: ENG 102.

211 Introduction to Fiction (3 credit hours)
Introduction to the reading of prose fiction including a study of the elements of fiction, various forms and modes of fiction, and the enjoyment of fiction. Prerequisite: ENG 102.

212 Introduction to Drama (3 credit hours)
Introduction to the study and analysis of drama including differences among plays of different periods. Prerequisite: ENG 102.

240 Intermediate Composition (3 credit hours)
Improvement of writing skills with special attention to individual writing weaknesses. Includes a review of basic writing principles. Prerequisite: ENG 102.

257 Basic Media Writing (4 credit hours)
(Also listed as COM 256.) Introduction to writing for the media. Structure and organization of media copy. Course requires reporting in the field.

291 Introduction to Creative Writing (3 credit hours)
Introduction to the fundamental techniques and strategies of poetry and short fiction; analysis of anthologized poems and stories; and group discussion of manuscripts. Prerequisite: ENG 102.

302 Poetry Writing (4 credit hours)
Fundamentals of poetry writing, practice in traditional and contemporary concepts of poetic form, reading and discussion of a wide spectrum of traditional and modern poetry, and group discussion of students’ poems. May be repeated twice for credit. Prerequisite: ENG 102.

303 Short Story Writing (4 credit hours)
Introduction to the theory and practice of writing the short story, including critical reading of contemporary short stories and group discussion of student written stories. May be repeated twice for credit. Prerequisite: ENG 102.

304 Dramatic Writing (4 credit hours)
(Also listed as TH 304.) Theory and practice of techniques of dramatic writing emphasizing writing of original plays. Prerequisite: ENG 102.

330 Business Writing (4 credit hours)
Written business and organizational communication; attention to various forms including short reports and informal oral presentations. Prerequisite: ENG 102.

333 Fundamentals of Technical Writing (4 credit hours)
Survey of the fundamental principles and skills used in scientific and technical writing. Prerequisite: ENG 102.

340 Language for Elementary Teachers (4 credit hours)
Systematic methods of examining the sound system and sentence structure of English, with applications of language acquisition and variation related to the elementary classroom. Prerequisite: ENG 102.

341 Advanced Composition for Secondary Teachers (3 credit hours)
Combines study and teaching of composition with practice in writing. Emphasis on expository writing with special attention to evaluation of writing and problems of secondary school teachers. Prerequisite: ENG 102.

342 Advanced Composition for Elementary Teachers (3 credit hours)
Study and practice of writing emphasizing informative and creative writing taught in the elementary school and problems of teaching writing to elementary school students. Prerequisite: ENG 102.

343 Advanced Composition (4 credit hours)
Emphasis on sophisticated techniques of expository writing and the refinement of style. Prerequisite: ENG 102.

344 Research Writing (4 credit hours)
Instruction in organizing, documenting, and writing of research papers. Research projects based not only on primary and secondary sources but also on experiment and investigation. Prerequisite: ENG 102.

345 Writing Workshop (4 credit hours)
Introduction to the teaching of writing in middle and high school language arts and English classes. Students will participate in writing workshop activities and study underlying principles of workshop instruction. Prerequisite: ENG 102.

346 Reading Workshop (4 credit hours)
Introduction to direct reading instruction and workshop methodology through the modeling of teaching strategies. Topics include classroom organization and planning, journals, questioning strategies, skills and literary minilessons, and response projects. Prerequisite: ENG 102.

347 Desktop Publishing and Technical Graphics (4 credit hours)
Introduction to the design and illustration of technical documents through labs requiring use of word processing and desktop publishing systems.

350 British and American Literature: History (4 credit hours)
Representative works from major periods of British and American Literature, read with attention to their historical background and cultural contexts. Prerequisite: ENG 102.
351 British Texts: Medieval to 17th Century (4 credit hours)
Representative works of major English writers of the medieval period and the 16th century. Prerequisite: ENG 102.

352 British Texts: 17th to 18th Centuries (4 credit hours)
Representative works of major British writers of the 17th and 18th centuries. Prerequisite: ENG 102.

353 British Texts: 19th Century (4 credit hours)
Representative works of major romantic and Victorian writers. Prerequisite: ENG 102.

353 Romantic & Victorian Literature (4.5 credit hours)
Representation works of such major Romantic and Victorian writers as Blake, Austen, Wordsworth, Coleridge, Keats, Shelley, Byron, Carlyle, Dickens, Tennyson, Browning, and Arnold.

354 British Texts: 20th Century (4 credit hours)
Representative works of major English writers of the modern period. Prerequisite: ENG 102.

355 American Texts: Earlier 19th Century (4 credit hours)
Representative works of major American writers before the Civil War. Prerequisite: ENG 102.

356 American Texts: Later 19th Century (4 credit hours)
Representative works of major American writers from the Civil War to World War I. Prerequisite: ENG 102.

357 American Texts: 20th Century (4 credit hours)
Representative works of major American writers since the twenties. Prerequisite: ENG 102.

359 Post-Colonial Texts (4 credit hours)
Representative works of major anglophone writers from around the world. Prerequisite: ENG 102.

364 Communication Graphics (4 credit hours)
(Also listed as COM 364.) Introduces basic principles of graphics communication, primarily as applied to print media. Includes the history and basic concepts of graphics communication, typography, photo editing, and graphic design.

366 Advanced News Writing (4 credit hours)
(Also listed as COM 366.) Advanced study of writing skills, practices, and procedures used in reporting news for mass media. Actual reporting in the field is required. News writing skills introduced in COM 256 are further refined. Prerequisite: COM 256 or ENG 257.

385 Adolescent Literature (4 credit hours)
Introduction to various types of literature written for young adults. Reading and analysis of adolescent books with an emphasis on their selection and use in the secondary language arts classroom. Prerequisite: ENG 102.

392 Poetry Writing Workshop (4 credit hours)
Intermediate practice in writing and revising poems, refining craft and style, with the aim of producing poetry of superior merit: group discussion of manuscripts; and reading and discussion of modern poetry and poetics. May be repeated twice for credit. Prerequisite: ENG 302 or instructor permission.

393 Fiction Writing Workshop (4 credit hours)
Intermediate study and practice of the techniques and forms of fiction in a continuing workshop environment, with focus on improving the narrative skills of individual students. May be repeated twice for credit. Prerequisite: ENG 303 or instructor permission.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of English. Topics vary. Prerequisite: ENG 102.

400 Advanced Technical Writing (4 credit hours)
Reviews the fundamentals of technical writing with attention to reports, proposals, manuals, technical articles, and style manuals. Emphasis on writing for specific fields with opportunity for independent writing projects in the student’s major field. Prerequisite: ENG 333 and ENG 347.

402 Technical Editing (4 credit hours)
Experience in various elements of technical editing—grammar, style, and content; editing for consistency of format and adherence to standards; and preparing a document for printing. Prerequisite: ENG 400.

405 Topics in Technical Writing (1 to 6 credit hours)
Courses, seminars, or workshops in specialized topics relating to technical writing. Prerequisite: ENG 400 or permission of the instructor.

410 Studies in British Literature (4 credit hours)
Intensive study of British literary history and/or the work of individual British writers. Intended to develop an understanding of literature within the contexts of the author’s life, literary production, and historical background. Prerequisite: ENG 255/256 or ENG 251: at least one of the ENG 350–359 sequence.

420 Studies in American Literature (4 credit hours)
Intensive study of American literary history and/or the work of individual American writers. Intended to develop an understanding of literature within the contexts of the author’s life, literary production, and historical background. Prerequisite: ENG 255/256 or ENG 251: at least one of the ENG 350–359 sequence.

430 Studies in Literature, Gender and Sexuality (4 credit hours)
Intensive study of literature from the perspectives of gender theory. Intended to develop an understanding of gender and sexuality as important both to literature and to its critical appreciation. Prerequisite: ENG 255/256 or ENG 251: at least one of the ENG 350–359 sequence.
440 African-American Women Writers (4 credit hours)
Intensive study of literature from different regions of America or reflecting the experiences of different ethnic groups. Intended to develop an understanding of race, region, and ethnicity as important both to literature and to its critical appreciation. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

450 Literary Types and Modes (4 credit hours)
Intensive study of literary theory in order to develop an understanding of critical questions and approaches. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

454 Feature Story Writing (4 credit hours)
(Also listed as COM 454.) Finding, writing, polishing, and marketing feature material. Prerequisite: ENG 257 or COM 256 or permission of instructor.

458 Editing for the Media (4 credit hours)
(Also listed as COM 458.) Editing of copy for mass media with emphasis on newspaper format, headline writing, rewriting, and general copy desk. Prerequisite: ENG 257 or permission of instructor.

460 Studies in Literary Genres and Themes (4 credit hours)
Intensive study of literary genres (e.g., poetry, the novel, satire) or of literary themes. Intended to develop an understanding of formal and structural aspects of literature. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

470 Constructions of Gender (4 credit hours)
Intensive study of non-European literature, focused nationally, regionally, cross-culturally, thematically, and generically. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

477 Workshop (1 to 6 credit hours)
Intensive study of selected special topics or problems to meet the particular needs of participating students. Titles vary.

478 Introduction to Linguistics (4 credit hours)
Presents a survey of the scientific study of language and focuses on describing and explaining languages in their natural environment. Includes phonetics, phonology, morphology, syntax, semantics, pragmatics, and sociolinguistics. Prerequisite: ENG 102.

479 History of the English Language (4 credit hours)
Study of the ancestry and early growth of the English language, the history of English sounds and inflections, the development of the English vocabulary, and variations in pronunciation and usage in modern British and American English. Prerequisite: ENG 102.

480 Studies in Language and Literacy (4 credit hours)
Intensive study of linguistic and/or rhetorical approaches to language. Intended to develop an understanding of language history, structure, theory, pedagogy, and context. Prerequisite: ENG 478.

481 Theory of ESL (English as a Second Language) (4 credit hours)
Presents a theoretical foundation for the study of second language acquisition, including first language acquisition, interlanguage, contrastive analysis, error analysis, language universals, communicative competence, and learning theory. Prerequisite: ENG 340 or 478.

482 Grammatical Structures of English (4 credit hours)
Develops linguistic analysis skills to help students recognize, analyze, and remediate written and spoken grammatical errors in ESL/EFL instructional contexts. Also focuses on pedagogical aspects of grammar instruction to nonnative speakers of English. Prerequisite: ENG 478.

483 Sociolinguistics (4 credit hours)
Examines the sociology of language, the ethnography of speaking, the variation in language structures, the social varieties of English, with their political and educational implications, and the relationship of these to second language acquisition. Prerequisite: ENG 478.

484 TESOL Methods and Materials (4 credit hours)
Develops skills in designing curricula through creating and adapting appropriate materials and activities, as well as evaluating and effectively using existing methodologies and materials available to the teacher of ESL/EFL. Prerequisite: ENG 340 or ENG 478.

485 Studies in English Education (2 to 4 credit hours)
(Also listed as ED 420.) Focus on theoretical issues and practical problems of teaching English at all levels, including the teaching of writing and teaching of English to speakers of other languages (TESOL). Prerequisite: ENG 340 or 478.

486 Integrated Language Arts Curriculum (4 credit hours)
Study of the integration and pedagogy of reading, writing, listening, speaking, viewing, and visually representing. Emphasis on responding to literature and introduction to interdisciplinary and thematic units. Prerequisite: ENG 345, ENG 346.

487 TESOL Assessment (4 credit hours)
Investigates key concepts and underlying theories in the field of language assessment. Looks at purposes and types of assessment with a focus on the development and use of authentic assessment for English language learners.
490 Senior Seminar in Literature (4 credit hours)
Intensive study and discussion of a significant writer or work. Students will conduct a quarter-
long research project culminating in a seminar paper; students will also prepare a portfolio of
their work. Titles vary. Prerequisite: ENG 251 and
at least three courses from ENG 410–480 series.

491 Directed Reading (1 to 3 credit hours)
Supervised reading in special areas of American,
English, or world literature in translation, and
English language and linguistics not available
through course structure. Limited to senior
English majors with a 3.0 cumulative average.
Prerequisite: Limited to senior English majors
with a 3.0 cumulative average.

495 Internship (4 credit hours)
Practical work experience performing writing-
related tasks in cooperation with local business,
professional, and service organizations.
Performance is supervised and evaluated by the
director of writing programs. Graded pass/
unsatisfactory.

498 English Honors Tutorial (2 credit hours)
Two-quarter sequence for senior English
majors who are doing an English honors project.
Prerequisite: Limited to departmentally approved
honors candidates.

499 English Honors Tutorial (2 credit hours)
Two-quarter sequence for senior English
majors who are doing an English honors project.
Prerequisite: Limited to departmentally approved
honors candidates.

Engineering Physics/EP

231 Contemporary Areas of Engineering Physics
(1 credit hour)
Survey of areas of engineering physics. Discussion
of specific problems in fields such as space
science, fluid and plasma dynamics, thermal
science, lasers, instrumentation, materials research,
and nuclear engineering.

322 Applied Optics (4 credit hours)
(Also listed as PHY 322.) Study of optical
instruments by means of both geometrical and
physical optics. Theory and application of
interferometry and light detection devices. Brief
introduction to lasers and holography. Three hours
lecture, two hours lab. Prerequisite: PHY 244 or
equivalent: MTH 253.

400 Properties of Semiconductor Materials
(3 credit hours)
(Also listed as PHY 400.) Crystal structure, energy
bands, charge carriers, and carrier motion in
semiconductors. Electrical and optical properties.
P-N junction diodes. Equilibrium, dc, ac, and
transient characteristics. Metal-Semiconductor
junctions. Diode design. Prerequisite: PHY 242,
PHY 244 and CHM 121.

401 Semiconductor Device Physics (3 credit hours)
(Also listed as PHY 401.) Covers structure and
characteristics of bipolar transistors, field effect
transistors, and other selected devices. Includes
design and computer modeling of devices.
Prerequisite: PHY 400 or EP 400.

402 Semiconductor Device Processing (3 credit hours)
(Also listed as PHY 402.) Survey of the individual
processes used in fabricating semiconductor
deVICES. Integration of these processes to produce
MOS and bipolar structures. Computer design
aids. Prerequisite: PHY 401, EP 401 or ME 370.

432 Lasers (3 credit hours)
(Also listed as PHY 432.) Introduction to the
physics of lasers including emission and
absorption processes in lasing, the factors
controlling laser gain, the properties of optical
resonators, and a survey of salient features for
principal types of lasers. Prerequisite: PHY 260,
MTH 233 or permission of instructor.

494 Engineering Physics Projects (3 credit hours)
Independent design/development/research projects
in engineering physics. A detailed written final
report and seminar presentation are required. A
project proposal must be approved by the program
faculty before registration.

499 Honors Engineering Physics Projects
(3 credit hours)
Independent design/development/research projects
in engineering physics for departmental honors
students. A final report, seminar presentation, and
journal submission are required. A project proposal
must be approved by the program faculty before
registration.

Finance/FIN

205 Personal Financial Decision Making
(4 credit hours)
Provides knowledge that helps students effectively
manage their personal financial affairs. Topics
include personal financial statements, budgeting,
tax planning, investing and savings, consumer
borrowing, insurance, real estate, and retirement
planning.

280 Special Topics in Finance (3 credit hours)
Seminar in a finance topic of current and timely
interest. Topics and prerequisites vary. For
nonmajors only. Prerequisite: Varies with topic.

301 Introduction to Business Finance I
(3 credit hours)
Introduction to the basic concepts, principles, and
analytical techniques of financial management.
Topics include financial planning and analysis,
risk and return, time value of money, and capital
budgeting. Prerequisite: ACC 202, CS 205,
EC 201, 202, 203 and MS 202.
302 Business Finance II (3 credit hours)
Continuation of Fin 301. Emphasis on financial decisions and cost of capital. Prerequisite: Fin 301.

303 Case Problems in Finance (3 credit hours)
Application of basic financial concepts and analytical techniques to financial decision making. Extensive use of cases. Prerequisite: Fin 302.

305 Personal Finance (3 credit hours)
Financial problems encountered in managing individual affairs such as family budgeting, installment buying, insurance, home ownership, investment in securities, taxes, retirement planning, and estate planning.

310 Financial Management I (4 credit hours)
Introduction to the basic concepts, principles, and analytical techniques of financial management. Topics include financial planning and analysis, risk and return, time value of money, cost of capital, capital budgeting, and capital structure. Prerequisite: ACC 205, CS 205, EC 205, MS 204 (ACC 202, EC 202, 203).

311 Financial Management II (4 credit hours)
Continuation of Fin 310. Emphasis is on financial decisions. Topics include dividend policy, current asset management and financing, derivatives and risk management, international finance, hybrid forms of financing, and mergers and acquisitions. Prerequisite: Fin 310.

315 Foundations of Financial Planning
(4 credit hours)
This course introduces basic concepts and techniques of financial planning from the perspective of a professional financial planner. Prerequisite: Fin 310.

331 Real Estate Principles and Practices
(4 credit hours)
Introduction to the principles and practices of real estate. Topics include the real estate profession and industry, real estate contracts, market analysis, valuation approaches, financing techniques, investment analysis, and home ownership. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio. Prerequisite: Junior standing.

332 Real Estate Law
(4 credit hours)
Includes all areas of law commonly concerned with the typical real estate practitioner and investor-consumer. Topics include the law of agency as applied to real estate brokers and salespeople, law of fixtures, estates (including leases), conveyancing of real estate, real estate managers, zoning, cooperatives, condominiums, and license laws of Ohio. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio.

351 Risk and Insurance (4 credit hours)
Introduction to principles and practices of personal risk management and insurance. Topics include property and liability insurance, life insurance, disability insurance, health insurance, and social security.

401 Investing in Securities (4 credit hours)
Introduction to the theory and practice of investing in stocks, bonds, and other securities. Prerequisite: Fin 310.

402 Seminar in Investments (4 credit hours)
Advanced treatment of the theory and practice of investing. Provides opportunities for individual investigation of selected topics. Prerequisite: Fin 401 and 419.

403 Real Money Investing (4 credit hours)
This two-quarter course provides hands-on experience in managing real money. The students manage an investment portfolio using money from the University Foundation. The course helps students learn about asset valuation and allocation, and portfolio management. Prerequisite: Fin 401.

411 Management of Financial Institutions
(4 credit hours)
Analysis of issues relating to the financial management of financial institutions. Prerequisite: Fin 310.

419 Financial Planning and Analysis (4 credit hours)
This course focuses on the analysis and projection of financial statements and how the statements may be used to make better decisions leading to value creation. Prerequisite: Fin 311.

420 Seminar in Financial Management
(4 credit hours)
In-depth treatment of advanced problems in managerial finance. Topics include capital budgeting, capital structure theory, cost of capital, dividend policy, and long-term financial management. Prerequisite: Fin 419.

421 Working Capital Management (3 credit hours)
Theory and practice of working capital management, including cash management, credit policy, inventory policy, and short-term financing. Extensive use of cases. Prerequisite: Fin 302.

430 Real Estate Finance and Appraisal
(4 credit hours)
In-depth study of real estate finance, and the theory and practice of appraising real estate. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio. Prerequisite: Fin 310, Fin 331, or instructor permission.

433 Real Estate Finance (3 credit hours)
In-depth study of the instruments, markets, techniques, and strategies of real estate finance. Successful completion of this course meets part of the licensing requirements for real estate brokers in Ohio. Prerequisite: Fin 302, 331.
434 Real Estate Valuation and Appraisal (3 credit hours)
In-depth analysis of the theory and practice of valuing and appraising real estate. Successful completion of this course meets part of the licensing requirements for real estate brokers in Ohio. Prerequisite: Fin 302, Fin 331.

435 Investing in Real Estate (4 credit hours)
Explores the theory and practice of real estate investment analysis as it relates to personal financial planning objectives. Prerequisite: Fin 310, 331, and ACC 343.

452 Life and Health Insurance (3 credit hours)
Analysis of the problem of economic insecurity resulting from premature death, disability, and old age. General theory of life and health insurance, its economic and social implications, and underlying principles and reasons for various contract provisions, underwriting practices, and legal doctrines are analyzed. Individual and group plans are covered. Prerequisite: Fin 351.

453 Property and Liability Risk Management (3 credit hours)
Study of the concepts and techniques of property and liability risk management from the perspective of both individuals and business firms. Prerequisite: Fin 351.

455 Advanced Topics in Insurance (4 credit hours)
Advanced treatment of theory and practice of insurance as it relates to personal and business planning objectives. Examination of selected topics and issues. Prerequisite: Fin 310 or permission of instructor. Prerequisite: Fin 351 or permission of instructor.

461 Retirement Planning (4 credit hours)
Familiarizes students with the concepts of retirement planning and employee benefits and the application of these concepts to overall financial planning for individuals and small businesses. Prerequisite: Fin 315, 351, and ACC 343.

462 Estate Planning (4 credit hours)
Provides a theoretical and practical approach to estate planning. Includes estate and gift taxes, wills, trusts, and estate planning techniques. Prerequisite: Fin 315, 351, and ACC 343.

463 Seminar in Financial Services (3 credit hours)
Emphasizes the development and application of a coordinated and systematic approach to financial planning. Extensive use of cases. For financial services majors only. Prerequisite: Fin 401, 461, 462, MKT 336.

470 Practicum in Financial Planning (4 to 8 credit hours)
Students participate in financial planning laboratories and attend workshops on interviewing techniques, data gathering, plan preparation, and computerized planning models. For financial services majors only. Prerequisite: Fin 351, 402, 461, ACC 441.

477 Finance Studies (1 to 4 credit hours)
Independent study in selected areas of finance or financial services. Prerequisite: Senior standing in finance and department chair's approval.

478 Honors: Independent Study in Finance (1 to 8 credit hours)
Research in finance for fulfillment of the Honors program project requirement.

480 Special Topics in Finance (4 credit hours)
Seminar in a finance topic of current and timely interest. Topics and prerequisites vary. Prerequisite: Varies with topic.

481 Internship in Finance (1 to 8 credit hours)
One-quarter faculty-supervised internship in finance. Students work in a firm or public agency, participate in seminars, and submit reports. Topics vary.

490 International Financial Management (4 credit hours)
Study of the international aspects of financial management. Topics include foreign exchange management, international capital budgeting, international financing, tax planning, and working capital management. Prerequisite: Fin 310.

French/FR

101 First Year French (4 credit hours)
Study of the vocabulary and structure of the French language: practice in conversation, reading, and writing. Prerequisite: None.

102 First Year French (4 credit hours)
Study of the vocabulary and structure of the French language: practice in conversation, reading, and writing.

103 First Year French (4 credit hours)
Study of the vocabulary and structure of the French language: practice in conversation, reading, and writing.

111 Essentials of French (4 credit hours)
Introduction to French with emphasis on speaking the language.

150 French Grammar Review (4 credit hours)
A thorough review of French grammar with an emphasis on oral practice.

201 Second Year French (4 credit hours)
Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language. Prerequisite: FR 103 or department permission.

202 Second Year French (4 credit hours)
Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language. Prerequisite: FR 201 or department permission.
203 Second Year French (4 credit hours)
Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language. Prerequisite: FR 202 or equivalent.

311 French Conversation (4 credit hours)
Practice in oral use of French emphasizing the culture of the French-speaking world. Prerequisite: FR 203 or equivalent.

312 French Conversation (4 credit hours)
Practice in oral use of French emphasizing the culture of the French-speaking world. Prerequisite: FR 203 or equivalent.

313 French Conversation (4 credit hours)
Practice in oral use of French emphasizing the culture of the French-speaking world. Prerequisite: FR 203 or equivalent.

321 French Composition (4 credit hours)
321 and 322: Writing techniques and grammar review; written stylistic analyses. Prerequisite: FR 203 or equivalent.

322 French Composition (4 credit hours)
321 and 322: Writing techniques and grammar review; written stylistic analyses. Prerequisite: FR 203 or equivalent.

323 French Composition (4 credit hours)
321 and 322: Writing techniques and grammar review; written stylistic analyses. Prerequisite: FR 321 or FR 322 or equivalent.

325 Business French (4 credit hours)
An introduction to the language of business French with insight into France’s place in the global economy. Prerequisite: FR 203.

331 Survey of French Literature: Middle Ages to the Present (4 credit hours)
Middle ages to the present. Prerequisite: FR 312 and 322 or permission of instructor.

332 Survey of Francophone Literature (4 credit hours)
331: Middle Ages, 16th and 17th centuries. 332: 18th, 19th, and 20th centuries. Prerequisite: FR 312 and 322 or permission of instructor.

351 French Civilization (4 credit hours)
Study of the main currents of French civilization with emphasis on the development of literary and cultural aspects. Conducted in French. Prerequisite: FR 202 or equivalent.

361 French Phonetics (2 credit hours)
 Pronunciation, diction, and intonation. Corrective exercises and laboratory work. Prerequisite: FR 202 or equivalent.

403 Advanced Studies: Language/Civilization (4 credit hours)
Conducted in French. Topics vary. Prerequisite: FR 322, FR 342.

421 Literature of the Middle Ages (4 credit hours)
Les Chansons de Gestes; Roland, Guillaume; le roman de Tristan, Chretien de Troyes; le roman de Renard; theatre; and le roman de la Rose. Prerequisite: FR 302, 322; or permission of instructor required.

422 Villon to Chenier (4 credit hours)
Three centuries of French poetry: Villon, Schve, Marot, Du Bellay, Ronsard, d’Aubigny, Malherbe, La Fontaine, Boileau, Voltaire, and Chinier. Prerequisite: FR 302, 322; or permission of instructor required.

423 Seventeenth and Eighteenth Century Novel (4 credit hours)
Mme. de La Fayette, Scarron, Finelon, Montesquieu, Lesage, Privost, Diderot, and Laclos. Prerequisite: FR 302, 322; or permission of instructor required.

441 Libertines and Moralists: Rabelais to Voltaire (4 credit hours)
Currents of skepticism and humanism in the intellectual history of French. Major authors: Rabelais, Montaigne, Cyrano de Bergerac, Saint-Evremond, La Bruyere, La Rochefoucauld, Bayle, Fontenelle, Diderot, and Voltaire. Prerequisite: FR 302, 322; or permission of instructor required.

442 Seventeenth and Eighteenth Century Theatre (4 credit hours)
Works of Corneille, Molihre, Racine, Marivaux, Diderot, Voltaire, and Beaumarchais. Prerequisite: FR 302, 322; or permission of instructor required.

443 The Enlightenment (4 credit hours)
History of political and social ideas in 18th-century France. Based principally on works of Montesquieu, Diderot, Voltaire, and Rousseau. Prerequisite: FR 302, 322; or permission of instructor required.

450 Independent Undergraduate Research (1 to 4 credit hours)
Topics vary.

451 Romanticism from Rousseau to Hugo (4 credit hours)
Includes Bernardin de Saint-Pierre, Chateaubriand, Mme. de Stakl, Nodier, Lamartine, Vigny, Musset, and Nerval. Prerequisite: FR 302, 322; or permission of instructor required.

452 Nineteenth Century Novel (4 credit hours)
Chateaubriand, Constant, Stendhal, Balzac, Flaubert, Zola, and France. Prerequisite: FR 302, 322; or permission of instructor required.

453 Poetry from Baudelaire to Breton (4 credit hours)
Symbolists, decadents, and surrealists. Prerequisite: FR 322, 332; or permission of instructor.
Course Descriptions

454 Nineteenth Century Short Story (4 credit hours)
Intensive study of such authors as Mirimie, Gautier, Balzac, Flaubert, Maupassant, and Villiers de l’Isle Adam. Prerequisite: FR 322, 332; or permission of instructor.

462 Twentieth Century Literature: The Novel (4 credit hours)
The novel. Prerequisite: FR 302, 322; or permission of instructor.

463 Twentieth Century Literature: Drama (4 credit hours)
Drama. Prerequisite: FR 302, 322; or permission of instructor.

464 Twentieth Century Literature: Poetry (4 credit hours)
Poetry. Prerequisite: FR 302, 322; or permission of instructor.

465 Studies in French and Francophone Literature (4 credit hours)
Selected topics in French literature that investigate various themes, myths, genres, literary movements, or characters. Titles vary. Prerequisite: FR 302, 322; or permission of instructor.

481 Independent Reading for Advanced Students (4 credit hours)
Topics vary.

482 Independent Reading for Advanced Students (4 credit hours)
Topics vary.

Geography/GEO

149 Global Awareness Through Map Study (3 credit hours)
Introduction to maps and their uses as a means to gain global awareness.

201 Principles of Physical Geography (4 credit hours)
Study of the elements of the human natural environment at regional and global scales including examination of the interactions among climate, soils, vegetation, landscapes, and people.

202 Principles of Cultural Geography (4 credit hours)
Study of major cultural elements of the human environment including examination of their spatial interactions and factors influencing their location and distribution.

203 Principles of Economic Geography (4 credit hours)
Examination of the principal geographic factors influencing human activities related to production, exchange, and consumption of goods and services.

302 Political Geography (4 credit hours)
Geographic appraisal of factors influencing evolution, structure, resource base, function, and associations of political units.

317 Urban Planning I: Introduction to Urban Planning (4 credit hours)
Examination of the development of city planning as a professional discipline. Consideration of the contributions to planning by the arts and sciences. Selected activities and functions of contemporary urban planning agencies are viewed from the perspective of current urban problems.

318 Urban Planning II: Principles of Planning (4 credit hours)
Includes the role of planning in urban structures, and duties and responsibilities of planning commissions; process of preparing comprehensive plans; population change, the economic base, and employment change: and determinants of future urban structure.

322 Principles of Geomorphology (4 credit hours)
Distribution of the world’s landforms with emphasis on processes and systems functioning to shape the natural landscape. Attention to three-way interaction among landforms, other physical factors, and people. Prerequisite: GEO 201.

325 World Regional Geography (4 credit hours)
Discussion of the nature of selected world regions and their spatial relationships. Emphasizes the unique characteristics of the cultures and landscapes of these regions applying basic geographic concepts.

331 Meteorology (4 credit hours)
Development and application of first principles governing the atmosphere at rest and in motion. Examination of the general circulation and applied meteorology. Prerequisite: MTH 131 or permission of instructor.

334 Climatology for Earth Science Teachers (4 credit hours)
Interaction of weather and climate with various earth systems. Includes observation, measurement, and analysis of meteorological elements and controls. For nonmajors only.

340 Urban Geography (4 credit hours)
General nontechnical introduction to urban geography focusing on major geographic concepts and principles relating to location, function, and structure of urban areas.

343 Concepts in Urban Geography (4 credit hours)
Examination of selected concepts, generalizations, and research methods of urban geography with emphasis on the spatial structure of residential populations, distribution of social pathologies, and segregation of social groups.

353 Location Theory (4 credit hours)
Study of theoretical aspects of the location of human activities. Introduction to theories and concepts regarding location and spatial arrangement of economic activities. Prerequisite: GEO 203 or permission of instructor.
354 Geography of Manufacturing (4 credit hours)  
Factors of industrial location using empirical examples. Includes introduction to basic theories and techniques underlying the decision process in manufacturing locations.

360 Systematic Geography (4 credit hours)  
Analysis of various geographic factors. Topics vary.

361 Remove Sensing (4 credit hours)  
Basic survey of imaging remote sensor types and their operational characteristics including sensors for the ultraviolet, visual, infrared, and microwave portions of the electromagnetic spectrum. Prerequisite: GEO 201.

362 Remove Sensing of the Environment (4 credit hours)  
Application of remote sensing techniques to environmental and resource problems. Emphasis on optimizing sensor selection to enhance image information content. Prerequisite: GEO 361 or permission of the instructor.

370 Regional Geography (4 credit hours)  
Physical and cultural analysis of major and minor world regions. Topics vary.

375 Environmental Conservation (4 credit hours)  
Economic and geographic appraisal of resource conservation in the world, emphasizing an analytical approach to solving such contemporary problems as human population growth, environmental quality, recreation and open space, and resource management. Prerequisite: GEO 202 or GEO 203.

385 Geographic Methodology (5 credit hours)  
Examination of the nature, tools, methods, and techniques of geographic analysis. Emphasis on design, compilation, interpretation, and presentation of research materials.

399 Studies in Selected Subjects (1 to 4 credit hours)  
Problems, approaches, and topics in the field of geography. Topics vary.

414 Urban Planning Seminar (4 credit hours)  
Examination of urban plans and planning proposals. Includes future land use plans, community facilities and public utility plans, and traffic and circulation plans. Considers modern theories of planning and the planning and design of new communities.

419 Urban Planning III: The Land Use Plan (4 credit hours)  
Process of preparing comprehensive urban plans. Methods for assessing land use conditions, housing patterns, and urban deterioration. Students participate in the development of a land use plan for selected area. Prerequisite: GEO 218 or permission of instructor.

430 Climatology I (4 credit hours)  
Observation, measurement, and analysis of climatic elements and controls, climatic classification, and relation of climate to human economic and social activities.

431 Meteorology (4 credit hours)  
Development and application of first principles governing the atmosphere at rest and in motion. Examination of the general circulation and applied meteorology. Prerequisite: MTH 131 or permission of instructor.

432 Climatology II (4 credit hours)  
Principles of physical and dynamical climatology. Evaluation of local and regional transports and conversions of energy in the earth-atmosphere system. Prerequisite: GEO 430.

441 SEM in Urban Geography (4 credit hours)  
Geographic perspective in the study of cities. Recent developments in theory, method, and techniques in urban geographic research with emphasis on the behavioral approach.

447 Geographic Information Systems (5 credit hours)  
Principles, structures, and applications of geographic information systems and utilization of data from topographic, remotely sensed, and photogrammetric sources. Prerequisite: GEO 365 or permission of instructor.

448 GIS Applications (5 credit hours)  
Students apply GIS techniques to solve public/private sector information and development problems. Solutions entail data analysis and forecasting, using ARC/INFO geographic information system methods. Prerequisite: GEO 447.

455 Geography of Transportation (4 credit hours)  
An analysis of spatial aspects and structural characteristics of transport networks, the movement of goods, and their relationship to regional economic structures. Prerequisite: GEO 203 or GEO 353 or permission of instructor.

458 Human Perception in Resource Management (4 credit hours)  
Spatial factors influencing human response and decision making in resource-use schema. Study of how people perceive environmental elements and apprehend resources and natural hazards such as floods and droughts.

463 Geographic Applications for Remotely Sensed Data (4 credit hours)  
Application of geographic methodology to problems employing photographic and machine-processed multispectral scanner data in contemporary use in academic research, environmental analysis, and planning. Prerequisite: GEO 362 or permission of instructor.
479 Landscape Urban Planning (5 credit hours)
A systematic approach to landscape analysis for urban site planning using basic data sources. Emphasis is on landscape capabilities for satisfying human needs and uses. Prerequisite: GEO 318 or permission of instructor.

481 Special Problems in Geography (1 to 4 credit hours)
Research and problems designed for specific needs and talents of students. Topics vary.

482 Special Problems in Geography (1 to 4 credit hours)
Research and problems designed for specific needs and talents of students. Topics vary.

484 Biogeography (3 to 4 credit hours)
(Also listed as BIO 484) Introduction to factors affecting the geographical distribution of plants and animals. Students registering for three credit hours attend lectures only; registration for four credit hours requires an additional laboratory section. Prerequisite: GEO 201 and 330 or permission of instructor.

486 Foundations of Geography (4 credit hours)
A study of the evolution of the discipline through analyses of the approaches, emphases, methodologies, paradigms, and traditions in geography. Prerequisite: Completion of departmental core courses, or 40 credit hours of geography courses, or senior standing.

492 Geography Internship (1 to 6 credit hours)
Provides geography majors 15 clock hours of practical experience under academic supervision each week during the quarter with a cooperating public agency or private firm. Topics vary. For geography majors only.

493 Honors Project in Geography (4 credit hours)
Provides geography majors of superior academic ability the opportunity to use, broaden, and demonstrate the knowledge and skills acquired.

494 Honors Project in Geography (4 credit hours)
Provides geography majors of superior academic ability the opportunity to use, broaden, and demonstrate the knowledge and skills acquired.

German/GER

101 First Year German (4 credit hours)
Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing. Prerequisite: None.

102 First Year German (4 credit hours)
Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing.

103 First Year German (4 credit hours)
Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing.

111 Essentials of German (4 credit hours)
Introduction to German with an emphasis on speaking the language.

115 German for Reading Knowledge (4 credit hours)
Introduction to all main points of grammar; practice in recognizing grammatical constructions and using a dictionary; and selected readings of adult-level texts from various fields. May be taken for letter grade or pass/unsatisfactory.

150 German Grammar Review (4 credit hours)
A thorough review of German grammar with an emphasis on oral practice.

201 Second Year German (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice speaking and writing the language. Prerequisite: GER 103 or department permission.

202 Second Year German (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice speaking and writing the language. Prerequisite: GER 201 or department permission.

203 Second Year German (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice speaking and writing the language. Prerequisite: GER 202 or equivalent.

215 Scientific German (4 credit hours)
Intensive reading in all areas of expository and technical German. Prerequisite: GER 103 or equivalent.

311 German Conversation (4 credit hours)
Emphasis on the culture of the German-speaking world. Prerequisite: GER 203 or equivalent.

312 German Conversation (4 credit hours)
Emphasis on the culture of the German-speaking world. Prerequisite: GER 203 or equivalent.

321 German Composition (4 credit hours)
Oral and written composition in German; translations from English into German. Further grammar study. Prerequisite: GER 203 or equivalent.

322 German Composition (4 credit hours)
Oral and written composition in German; translations from English into German. Further grammar study. Prerequisite: GER 203 or equivalent.

323 German Composition (4 credit hours)
Oral and written composition in German; translations from English into German. Further grammar study. Prerequisite: GER 203 or equivalent.

325 Business German (4 credit hours)
An introduction to the language of business German with insight into Germany's place in the global economy. Prerequisite: GER 203.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>331</td>
<td>Survey of German Literature (4 credit hours)</td>
<td>4</td>
<td>Historical survey of German literature from its beginning to the present. Representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others. Prerequisite: GER 302, 322; or permission of instructor.</td>
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<td>332</td>
<td>Survey of German Literature (4 credit hours)</td>
<td>4</td>
<td>Historical survey of German literature from its beginning to the present. Representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others. Prerequisite: GER 312 and 322 or permission of instructor.</td>
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<tr>
<td>333</td>
<td>German Culture and Civilization (4 credit hours)</td>
<td>4</td>
<td>Survey of cultural influences and of political, social, economic, religious, educational, and cultural institutions. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
<tr>
<td>351</td>
<td>Introduction to Germanic Folklore (4 credit hours)</td>
<td>4</td>
<td>Survey of Germanic folklore as it relates to literature. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
<tr>
<td>399</td>
<td>Studies in Selected SUBJ (1 to 4 credit hours)</td>
<td>1 to 4</td>
<td>Topics vary.</td>
</tr>
<tr>
<td>403</td>
<td>Advanced Studies: Language/Civilization (4 credit hours)</td>
<td>4</td>
<td>Topics vary. Conducted in German. Prerequisite: GER 342, 322; or permission of instructor.</td>
</tr>
<tr>
<td>405</td>
<td>Early German Literature (4 credit hours)</td>
<td>4</td>
<td>German literature from the earliest times to the reformation. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
<tr>
<td>406</td>
<td>Renaissance and Reformation (4 credit hours)</td>
<td>4</td>
<td>Representative German authors of the period. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
<tr>
<td>410</td>
<td>Baroque (4 credit hours)</td>
<td>4</td>
<td>Representative German authors of the period. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
<tr>
<td>415</td>
<td>German Literature of the Eighteenth Century (4 credit hours)</td>
<td>4</td>
<td>Representative authors in Rococo, Enlightenment, and Storm and Stress. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
<tr>
<td>416</td>
<td>German Literature of the Eighteenth Century (4 credit hours)</td>
<td>4</td>
<td>Representative authors in Rococo, Enlightenment, and Storm and Stress. Prerequisite: GER 302, 322; or permission of instructor.</td>
</tr>
</tbody>
</table>

417 German Romanticism (4 credit hours)  
Study of the romantic movement with representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others. Prerequisite: GER 302, 322; or permission of instructor.

418 Goethe's Faust (4 credit hours)  
Intensive study of Faust I and Faust II. Prerequisite: GER 302, 322; or permission of instructor.

425 German Literature of the Nineteenth Century (4 credit hours)  
Readings and reports in 19th-century literature - poetry. Representative works of Eichendorff, Hoffmann, Keller, Meyer, Storm, Fontane, and others. Prerequisite: GER 302, 322; or permission of instructor.

426 German Literature of the Nineteenth Century (4 credit hours)  
Readings and reports in 19th-century literature - drama. Representative works of Tieck, Kleist, Grillparzer, Hebbel, Buchner, and others. Prerequisite: GER 302, 322; or permission of instructor.

427 German Literature of the Twentieth Century: PROSE (4 credit hours)  
Readings and reports in 20th-century literature - prose. Representative works of Hesse, Mann, Kafka, and others. Prerequisite: GER 302, 322; or permission of instructor.

432 German Literature of the Twentieth Century (4 credit hours)  
Readings and reports in 20th-century literature - drama. Representative works of Schnitzler, Hofmannsthal, Kaiser, Toller, Brecht, and others. Prerequisite: GER 302, 322; or permission of instructor.

433 German Literature of the Twentieth Century (4 credit hours)  
Readings and reports in 20th-century literature - poetry. Representative works of Rilke, George, Trakl, Benn, and others. Prerequisite: GER 302, 322; or permission of instructor.

434 Thomas Mann (4 credit hours)  
Studies of the writings of Thomas Mann. Prerequisite: GER 302, 322; or permission of instructor.

450 Undergraduate Research in German (1 to 4 credit hours)  
Topics vary.
481 Independent Reading for Advanced Students
(4 credit hours)
Topics vary.

482 Independent Reading for Advanced Students
(4 credit hours)
Topics vary.

Geological Sciences/GL

105 The Planet Earth (4 credit hours)
Introduction to the composition and structure of the earth through a study of the physical and chemical processes (weathering, sedimentation, and the plate tectonic cycle) that have produced the earth, its minerals, rocks, landforms, and economic deposits. 3 hours lecture, 2 hours lab.

106 The Evolving Earth (4 credit hours)
Exploration of time in geology through a study of the history of the earth and of life as revealed by the physical and biological evidence recorded in the rocks. 3 hours lecture, 2 hours lab.

107 The Earth & Human Affairs (4 credit hours)
Examination of the interactions of humans with the earth in terms of geological hazards and natural resources. Also offered as Geologic Development of Ohio: Rocks, Fossils, and Resources, a field course emphasizing the geology of Ohio. 3 hours lecture, 2 hours lab.

111 Physical Geology Honors I (4.5 credit hours)
Comprehensive treatment of the dynamic systems and materials of the earth. External processes and resulting land forces are also studied. Three hours lecture, three hours lab.

112 Physical Geology Honors II (4.5 credit hours)
Comprehensive treatment of external and internal processes of the earth and the resulting landforms. Introduction to earth resources and other earth-like planets. Prerequisite: GL 25, 252.

113 Historical Geology—Honors (4.5 credit hours)
Summary of current thought about the earth’s history from its origin to the present. Topics include movement and evolution of the earth’s crust, world climatic changes, and evolution of plants and animals. Three hours lecture, three hours lab.

120 Honors Geology—Physical, Historical Field
(12 credit hours)
Offers the equivalent of a three-quarter introductory geology sequence to honors students during one summer. Five weeks of double lectures and labs are followed by a five-week field trip to the northern Rocky Mountains.

199 Directed Studies (1 to 4 credit hours)
Research and problems related to specific needs and talents of students.

201 Hydrology and Water Resources (4 credit hours)
Hydrologic cycle; emphasizes past, present, and future problems in flood control, water pollution, and water resource development. Three hours lecture, two hours lab or field trip.

251 Physical Geology and Geomorphology I
(3 credit hours)
Comprehensive treatment of the dynamic systems and materials of the earth. External processes and resulting land forces are also studied.

253 Physical Geology and Geomorphology II
(3 credit hours)
Comprehensive treatment of external and internal processes of the earth and the resulting landforms. Introduction to earth resources and other earth-like planets. Prerequisite: GL 251, 252.

255 Historical Geology (3 credit hours)
History of the earth, including geologic history of all of earth’s continents. Review of origin of earth, development of the rock record, evolution of diverse life forms to produce a biological and physical history of the earth. Prerequisite: Recommended GL 251 and 253.

304 Earth Resources and Environmental Quality
(3 credit hours)
Study of earth resources as the economic base of civilization. Natural geologic processes and geochemical cycles of global change are compared with human-induced impact on environment. Emerging trends in technology and policy matters and their influence on environmental quality are analyzed. Prerequisite: GL 105 and 106 or equivalent.

309 Geologic Hazards and Environmental Quality
(4 credit hours)
Hazards from geologic materials: reactive minerals, the asbestos controversy, radioactive and toxic gases. Hazards from geologic processes: earthquakes, volcanic eruptions, slope processes, subsidence, floods, and coastal hazards. Geologic hazards monitoring, mitigation, and avoidance. Risk evaluation. Three hours lecture, two hours lab or field trip.

310 Issues in Science (3 credit hours)
(Also listed as BIO 310, CHM 310, PHY 310, and MTH 310.) A writing-intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.

311 Introduction to Structural Geology
(4.5 credit hours)
Concepts of stress, strain, and material behavior used to describe and explain how rocks deform. Depositional structures. Three hours lecture, three hours lab. Prerequisite: GL 103.
342 Fossil Vertebrates and Plants (4.5 credit hours)
Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation. Three hours lecture, three hours lab. Prerequisite: Recommended preparation GL 255 (Historical Geology), GL 256 (Historical Geology lab).

345 Concepts in Geology (4.5 credit hours)
Accelerated treatment of principles of physical and historical geology pertinent to teaching students in grade school (K–8). Includes laboratory exercises that will be effective for teaching K–8 students and can be used in a self-contained classroom. Elementary education majors only. Prerequisite: PHY 245, CHM 245.

381 Mineralogy & Crystallography (6 credit hours)
Lecture: Crystal properties and crystal classes. Study of approximately 100 important minerals. Lab: stereoscopic and gnomic projections to identify crystal forms; physical properties to identify minerals in hand sample. Three hours lecture, six hours lab.

383 Sedimentary Petrology (4.5 credit hours)
Introduction to the optical properties of common minerals. Survey of sedimentary rocks in hand specimen, thin section, and field occurrence. Three hours lecture, three hours lab. Prerequisite: GL 381 or GL 401.

385 Igneous & Metamorphic Petrology (4.5 credit hours)
Origin of igneous and metamorphic rocks. Lab: use of thin sections and hand specimens for mineral identification, rock structures, and classifications. Three hours lecture, three hours lab. Prerequisite: GL 383.

399 Special Problems (1 to 6 credit hours)
Research problems for specific needs and talents of students. Topics vary.

401 Rocks and Minerals (4.5 credit hours)
Study of the structure, symmetry, and composition of minerals and the composition, classification, and origin of rocks. Lab emphasizes mineral and rock identification. Prerequisite: GL 252.

405 Ground-Water Monitoring and Remediation (4 credit hours)
Principles of groundwater monitoring and cleanup system design. Theory and field practices for monitoring well drilling/installation, lysimeter installation for natural and contaminated groundwater, etc. Field visits to sites with contaminated aquifers undergoing remediation.

420 Regional Tectonics (3 credit hours)
Study of the structure of the earth as revealed by solid earth geophysics and dynamics of internal geologic processes, and of the large scale tectonic structure of the North American continent obtained through the Decade of North American Geology Project. Prerequisite: GL 311 or permission of the instructor.

421 Groundwater Law and Regulatory Principles (3 credit hours)
Case study approach to understanding current federal, state, and local ground water law and regulations.

422 Introduction to Applied Geophysics (5 credit hours)
(Also listed as see PHY 422.) Introduction to gravity, magnetic, seismic, and electrical methods of subsurface investigation. Three hours lecture, four hours lab. Prerequisite: MTH 131 required/ MTH 229 recommended.

423 Seismic Exploration (4 credit hours)
Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration. Three hours lecture, two hours lab. Prerequisite: GL 105 and PHY 242.

424 Gravity and Magnetic Exploration (4 credit hours)
(Also listed as PHY 424.) Study of the theory of earth’s gravitational and magnetic fields and the application of these principles to resource exploration. Three hours lecture, two hours lab. Prerequisite: GL 422 or consent of instructor.

425 Topical Concepts in Geophysics (4 credit hours)
(Listed jointly with PHY 425) Special topics in geophysics, 3 hours lecture, 2 hours lab. Prerequisite: GL 422 or consent of instructor.

426 Geophysics Seminar (1 credit hour)
Literature survey and presentations by students on selected topics in geophysics. Prerequisite: GL 422.

427 Regional Structural Synthesis (4 credit hours)
Synthesis of diverse structural, geophysical, and remote sensing data and their application to regional tectonic interpretation and natural resource evaluation. Prerequisite: GL 311, 312.

428 Geology Colloquium (0.5 to 2 credit hours)
Selected geological topics discussed by students, guest speakers, and faculty. May be taken for letter grade or pass/unsatisfactory.

431 Electrical Methods in Environmental Geophysics (4 credit hours)
The principles and practices of acquisition and interpretation of data from electrical and electromagnetic geophysical techniques. Prerequisite: GL 422 or permission of instructor.

432 Sedimentary Systems and Sequences: Carbonates (4.5 credit hours)
Interpretation of ancient and modern carbonate systems using sequence stratigraphic principles. Carbonate facies models as predictive tools for hydrocarbon exploration and aquifer modeling. Composition, origin, and diagenesis of carbonate rocks. Prerequisite: Recommended preparation GL 383 or GL 485.
433 Geophysical Field Research (1 to 6 credit hours)
Geophysical research participation in a project of the department. The content and techniques will depend on the particular project, but will normally have an extensive component of field data acquisition. May be repeated for credit. May be taken for a letter grade or pass/unsatisfactory.

434 Field Geology (9 credit hours)
Geologic phenomena illustrated in the field. Introduction of mapping techniques and application of many geological disciplines to geologic analysis. Prerequisite: GL 103, 311, or consent of the instructor.

436 Diagenesis of Sedimentary Rocks (3 credit hours)
Theory and application of petrographic techniques to studies of carbonate and clastic rocks, with emphasis on diagenesis and porosity development. Prerequisite: Recommended preparation GL 432.

437 Subsurface Digital Imaging and Processing (4 credit hours)
Digital processing and visualization of seismic reflection and ground penetrating radar data. Two hours lecture, four hours lab. Prerequisite: GL 423.

438 Seismic Interpretation (3 credit hours)
Interpretation methods for seismic reflection data are studied with emphasis on structural and stratigraphic interpretation for petroleum traps. Prerequisite: GL 423 or permission of instructor.

441 Advanced Facies Analysis (4 credit hours)
Facies models as prediction tools in oil and gas exploration, interpretation of seismic 2D and 3D data, and resolving ground water and environmental problems in unregolith aquifers. Prerequisite: GL 251, 253, 487 or equivalents, or permission of instructor.

444 Formation Analysis (4 credit hours)
Theory, application, and interpretation of geophysical logs with emphasis on their use in correlation and determination of porosity, permeability, and fluid content of subsurface formations. Three hours lecture, two hours lab.

445 Petroleum Geology (4 credit hours)
Hydrocarbon source rocks, maturation, and migration. Reservoir rocks and traps, Fluids in the reservoir; gas, oil, water, and relationships. Exploration for and production of hydrocarbons. Review of major petroleum basins and deposits.

446 Sequence Stratigraphy (3 credit hours)
Provides a firm grounding in the mechanisms that produce sea-level change, how sediments respond to these changes, and how the architecture of basins develop over time.

450 Hydrogeology (4 credit hours)
Provides a fundamental understanding of basic hydrological principles including ground water flow and chemistry, surface water hydrology, unsaturated flow, and meteorology. Students are expected to understand basic physics and calculus.

454 Ground-Water Flow and Transport (4 credit hours)
Covers the occurrence and movement of ground water, and the advection and dispersion of contaminants in groundwater flow regimes. Lab introduces interpreting the hydraulic properties of groundwater flow regimes from field data. Three hours lecture, two hours lab. Prerequisite: MTH 230, PHY 244.

455 Hydrogeochemistry (4 credit hours)
Focuses on the chemical interactions between natural waters and their geologic environments. Included are chemical principles, carbonate system, silicate equilibria and weathering, redox reactions, isotope hydrology, and hydrogeochemical modeling. Prerequisite: CHM 121, 122, 123 or CHM 191, 192, 193.

456 Engineering Geology I (4 credit hours)
Principles of engineering geology applications of geologic principles to engineering works. Impact and interrelationship of geologic processes on humans' construction efforts. Prerequisite: GL 107.

461 Geologic and Environmental Applications of GIS (4 credit hours)
Introduces principles and essential elements of Geographic Information System (GIS); concept of ground water vulnerability to contamination is incorporated to illustrate data analysis, map algebra, and decision making using GIS. May be taken for a letter grade or pass/unsatisfactory.

462 Process Geomorphology (4 credit hours)
Study of the processes that create and modify landforms. Classifications of landforms and what they reveal of past geologic processes and climates. Prerequisite: (GL 251, 252, 253, 254) or (GEO 201 and GEO 322).

463 Geologic and Environmental Application of Remove Sensing—Aerial Photographs (4 credit hours)
The use of aerial photographs for geological mapping, exploration of mineral resources, hydrogeology, hazard monitoring, environmental problems, and land use monitoring and analysis.

468 Groundwater Contamination (4 credit hours)
Behavior of organic and inorganic pollutants in the vadose zone and saturated subsurface including vapor migration, dissolution, and sorption of LNAPLs and DNAPLs; chemical and microbiological degradation; and fate of chlorinated and other hydrocarbons. Prerequisite: GL 450/650 or GL 455/655.
469 Site Remediation (3 credit hours)
Chemical and microbiological degradation of pollutants in subsurface. Diagnosis and assessment of contaminated sites. Concepts and techniques for LNAPL and DNAPL remediation: pump and treat, soil vapor extraction, bioventing/airsparging, chemical treatment, solvent extraction, and bioremediation. Prerequisite: GL 468.

470 Environmental Geochemistry (4 credit hours)

475 Applied Hydrogeology (1 to 9 credit hours)
Interactive Remote Instructional System (IRIS) program in ground water hydrology.

485 Stratigraphy (4.5 credit hours)
Principles, rules, and techniques of correlation. Relationships between surface and subsurface correlation. Geologic and geophysical correlation techniques. Three hours lecture, three hours lab.

486 Invertebrate Paleontology (4.5 credit hours)
Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. Three hours lecture, three hours lab. Prerequisite: GL 255 (Historical Geology), GL 256 (Historical Geology lab).

487 Sedimentology (4 credit hours)
Clastic rocks, their mineralogy, texture, provenance, and classification. Nonclastic carbonates and other nonclastic rocks. Depositional environments: sedimentary structures. Three hours lecture, two hours lab. Prerequisite: GL 333.

499 Special Problems (0.5 to 6 credit hours)
Research problems for specific needs and talents of students. May be taken for letter grade or pass/unsatisfactory at the department’s option.

Greek/GR

101 Beginning Greek (4 credit hours)
Essentials of the Greek language. Prerequisite: None.

102 Beginning Greek (4 credit hours)
Essentials of the Greek language. Prerequisite: GR 101.

103 Beginning Greek (4 credit hours)
Essentials of the Greek language. Prerequisite: GR 102.

201 Intermediate Greek (4 credit hours)
Review of essentials and reading for comprehension in selected authors. Prerequisite: GR 103.

202 Intermediate Greek (4 credit hours)
Review of essentials and reading for comprehension in selected authors.

351 Readings in Greek Drama (4 credit hours)
Aeschylus, Sophocles, Euripides, Aristophanes, and Menander. Study of at least one play in Greek. Topics include origin and development of tragedy, drama as a reflection of contemporary events, and development of new comedy. Prerequisite: GR 202 or equivalent.

353 Readings in Greek Poetry (4 credit hours)
Greek epic and lyric poetry: epics of Homer and Hesiod, the Homeric Hymns, the early lyric poets such as Archilochus and Sappho, and the Hellenistic poets. Topics for investigation include structure and technique of oral epic, the didactic tradition, lyric meters and diction, and the development of pastoral poetry. Prerequisite: GR 202 or equivalent.

399 Studies Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of Greek. Topics vary.

451 Readings in Greek Philosophy (4 credit hours)
Plato, Aristotle, Epicurus, Epictetus, and Marcus Aurelius. Topics include pre-Socratics and the development of philosophical vocabulary, the sophistic movement, the Cynic tradition, and the development of popular philosophy. Titles vary. Prerequisite: GR 202 or equivalent.

453 Readings in Greek History and Biography (4 credit hours)
Herodotus, Thucydides, Xenophon, Polybius, and Plutarch. Topics for investigation include methods of composition, influences on historiography from the sophists and philosophers, the development of Greek historical writing, and supplemental evidence from inscriptions and nonliterary sources. Titles vary. Prerequisite: GR 202 or equivalent.

455 Readings in Greek Politics and Political Theory (4 credit hours)
Lysias, Demosthenes, Isocrates, Old Oligarch, Plato, Xenophon, and Aristotle. Topics for investigation include development of political ideas and vocabulary, nonliterary sources for our knowledge of Greek civil life, and influences on Roman theories and practices. Prerequisite: GR 202 or equivalent.

457 Reading in Greek Prose Narrative (4 credit hours)
Readings of Greek prose authors on topics such as the scientific or pseudoscientific writings of Hippocrates, Euclid, Archimedes, and Ptolemy; travel commentary of Strabo and Pausanias; essays of Athenaeus; and fiction of Lucian. Prerequisite: GR 202.

481 Independent Reading (1 to 4 credit hours)
Titles vary.
Hebrew/HEB

100 Essentials of Hebrew (3 credit hours)
An introduction to the essential elements of the Hebrew Language, emphasizing skills needed to read and understand Biblical Hebrew. The relationship between Biblical and Modern Hebrew will also be explored.

Health Education/HED

230 Personal Health (4 credit hours)
Discussions of personal health problems in adolescents through the lifespan including the six CDC risk areas of injuries, tobacco, alcohol, drug use, sexual behavior that leads to pregnancy, STDs, diet, and physical activity.

330 School and Community Health Services (3 credit hours)
Discusses problems of chronic and communicable diseases, environmental health, world health, and the school and community agencies involved in their solutions through assessment, planning, implementing, and evaluating school health programs.

331 Health Education for Early and Middle Childhood (4 credit hours)
Covers students pre-K through ninth grade. Promoting positive lifestyles; the comprehensive school health program; planning, organizing, and evaluation of curriculum; goals and objectives for health teaching; teaching and learning plans; and controversial issues.

382 Curriculum and Methods in Health Education (3 credit hours)
Curriculum development (pre-K-12) in health education including aims, objectives, implementation, evaluation, and unit planning. Provides criteria for the selection of specific health education content areas and teaching methods across the lifespan. Prerequisite: Admission to teacher education program or permission of instructor.

431 Human Sexuality for Educators (3 credit hours)
A course in human sexuality for health educators who deal with communication, sexual behavior, birth control, abortion, pregnancy, childbirth, premarital sex, ethics, homosexuality, marriage, divorce, parenting, sexual health, coercive sex, and sexual assault.

432 Death, Loss and Grief (3 credit hours)
(Also listed as RHB 432.) Course in death, dying, and grieving for health educators who deal with grief and loss in situations such as death, dying, survivorship, children and loss, second marriages, suicide, and other events of trauma. (Previously listed as HPR 432, credit hours)

Health/HLT

201 Human Expression of Health (4 credit hours)
An introduction to the aesthetic expressions of health reflecting cultural and spiritual concerns. (writing intensive credit hours)

202 Eastern Influences on Western Health (4 credit hours)
An exploration of the cultures of the Eastern world and their influence on health care practices in the west. (Writing intensive credit hours)

203 The Languages of Health Data (4 credit hours)
An introduction to the mathematical, social, political, financial, and cultural influences on communication regarding health. (Writing intensive credit hours)

416 Special Topics in Health (1 to 4 credit hours)
Topics vary. Specific titles announced in quarterly class schedule. May be taken for a letter grade or pass/unsatisfactory.

Health Physical Education and Recreation/HPR

151 Total Fitness Lifestyle (4 credit hours)
Assessment, prescription, participation, and reassessment of fitness variables including cardiovascular fitness, strength, blood lipids, and body composition.

170 Principles of Physical Fitness (3 credit hours)
Instruction concerning principles of physical fitness including aerobic fitness, muscular fitness, and evaluation of current concepts regarding diet and exercise. Demonstrations of measuring aerobic and muscular fitness, body composition determination, and graded exercise testing. Must have attended TFL orientation to enroll.

211 Motor Development (4 credit hours)
Examination of the variety of movement changes that occur and their influence on human motor development.

212 Adapted Physical Education and Recreation (4 credit hours)
Provides an overview of the etiological, physical, and psychological considerations of disabilities. Methods of adapting activities and supervised field experiences in physical education for individuals with disabilities.

213 Teaching Adapted Aquatics (3 credit hours)
Red Cross certification course in adapted aquatics. Concepts are given regarding teaching techniques, disabilities, and basic rescues specific to the population involved. Prerequisite: HPR 212.
214 Adapted Physical Activity (3 credit hours)
Rules and certification requirements of the various athletic opportunities for exceptional populations. Includes discussions of adaptive devices and special facilities used for these programs. Prerequisite: HPR 212.

220 Fundamental Movements (3 credit hours)
Examination of basic content areas of physical education for grades K–6. Includes motor activities that aid the elementary-age child in developing fundamental movements and sports skills. Students must demonstrate cognitive and psychomotor abilities.

240 Problems in Health Education (2 credit hours)
Discussion of problems related to health education. Much of the course content is determined by students enrolled through individualized assignments.

241 Introduction to Health, Physical Education and Recreation (3 credit hours)
Introduces the developing professional to the nature and scope of health, physical education, and recreation. Includes degree and licensure requirements, professional organizations, career opportunities, historical perspectives, trends and issues in HPR and related fields.

242 Problems in Health, Physical Education and Recreation (2 credit hours)
Current issues in health, physical education, and recreation. Students work on individual problems related to the health, physical education, and recreation program at Wright State.

250 Basics of Anatomy and Physiology I (4 credit hours)
A study of anatomy and physiology correlating both structure and function of the human body. Topics include organization, skeletal system, muscular system, nervous system, circulatory system, and endocrine system. Three hours lecture, two hours lab.

251 Basics of Anatomy and Physiology II (4 credit hours)
A continuation of HPR 250. Topics include respiration, exercise, digestion, metabolism, urinary system, acid base balance, reproduction, and immune system. Prerequisite: HPR 250.

260 First Aid (3 credit hours)

261 Athletic Training (4 credit hours)
Introductory course in the field of athletic training and sports injuries pertinent to health and physical education.

281 Physical Education for Early & Middle Childhood (4 credit hours)
Curriculum teaching methods and materials in physical education for early and middle childhood (ages 3–14). Emphasis on goals of effective programs, activity for optimal growth development, content areas, and principles for teaching motor skills.

284 Practicum in Health, Physical Education and Recreation (1 to 15 credit hours)
Supervised field work for sophomore students who are seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

310 Developmental Activities for Children (4 credit hours)
Movement activities that aid the developmentally delayed as well as the normal child in developing motor skills. Equipment and materials necessary to provide appropriate movement activities. Prerequisite: HPR 210.

312 Motor Skills for Individuals with Multiple Disabilities (3 credit hours)
Sensory-motor skill development of individuals as it relates to perceptual enhancement, IFSP and IEP development, mobility skills, and vocational fitness from early childhood to adulthood. Intended for students in adapted physical education, early childhood education, special education, and related disciplines.

340 Organization and Administration of Health, Physical Education, Recreation, and Athletic Programs (3 credit hours)
Organizational techniques, administrative procedures, and principles of managing school health education, physical education, recreation, and athletic programs. Includes scheduling, facilities, personnel, programs of instruction, and public relations. Prerequisite: HPR 241.

341 Aquatic Program Development (3 credit hours)
Development of aquatic shows and demonstrations to include water ballet, water shows, synchronized swimming, and other aquatic extravaganzas. Prerequisite: HPR 100 beginning synchronized swimming.

353 Kinesiology (4 credit hours)
Analysis of muscular interrelationships in basic body movement and principles of mechanics as they relate to fundamental and complex motor skills in physical education activities. Prerequisite: HPR 250 & 251.

354 Psychology of Sport (3 credit hours)
Provides information to help the prospective teacher, coach, or sports medicine professional to effectively apply behavioral science principles to the performance aspects of sport and human movement.
Course Descriptions

355 Applied Exercise Physiology (4 credit hours)
Practical applications in exercise physiology for the physical educator, coach, and athletic trainer. Methods of conditioning, training, implementation, and other special considerations included. Prerequisite: HPR 250, 251.

362 Nutrition for Fitness and Sport (3 credit hours)
Nutrient and food energy needs of the individual who is physically active during the life cycle. Tissue maintenance, growth and development, immune function, energy development, the food pyramid, and sound dietary practices are investigated.

380 Health Instruction (2 credit hours)
Theory and application of health instruction including materials, curriculum development, and discussions of a variety of teaching methods. Prerequisite: HPR 230, HPR 330, ED 211 through ED 217.

381 Curriculum and Methods in Physical Education (3 credit hours)
Curriculum development in pre-K physical education: aims, objectives, implementation, evaluation, teaching methods, daily and unit lesson planning. Self-assessment and problem solving techniques allow student to reflect upon and revise teaching practices. Prerequisite: Admission to teacher education program or permission of instructor.

383 Methods of Teaching Outdoor Activities (3 credit hours)
Designed to provide knowledge and practical application of teaching and leading outdoor activities relating to the field of physical education and recreation. Prerequisite: ED 211 through 217.

384 Practicum in Health, Physical Education and Recreation (1 to 15 credit hours)
Supervised field work for senior students seeking certification or a concentration in a specific area. Topics vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

410 Psychomotor Assessment of Exceptional Children (4 credit hours)
Emphasis on developing knowledge and skill in diagnosing motor, physical, and sensory deficiencies in exceptional children. Administrative procedures and interpretation of numerous assessment instruments are covered. Prerequisite: HPR 212.

419 School Nursing Practicum (5 to 15 credit hours)
Supervised experiences in the public school. Prerequisite: HPR 440.

430 Coaching Theory (1 to 3 credit hours)
Theory, methods, skills, strategies, organization, psychology, ethics, conditioning, and general aspects of teaching and coaching a particular sport. Typical sports covered include baseball, basketball, and soccer.

435 Officiating (1 to 3 credit hours)
Study of the rules and techniques of officiating a particular sport. Typical sports covered include baseball, basketball, football, soccer, and volleyball. Prerequisite: HPR 101 in same sport.

440 School Health Services (3 credit hours)
Study of health services provided by our public schools; techniques for increasing students' knowledge of healthful practices.

460 Motor Learning (4 credit hours)
A study of theories of learning in relation to the acquisition of motor skills and the relationship of psychology to motor skills learning; application to teaching stressed. Prerequisite: HPR 211.

481 Research Measurement and Evaluation in Physical Education (4 credit hours)
Nature and purpose of measurement in health education and physical education. Evaluation of available tests, practice in administration of pertinent tests, and statistical procedures will also be discussed. Research paper required.

484 Practicum in Health, Physical Education and Recreation (1 to 15 credit hours)
Supervised field work for junior students seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

488 Independent Study (1 to 6 credit hours)
Independent reading, writing, and/or reporting in areas related to health, physical education, or recreation. Topics vary.

489 Workshop in Health, Physical Education and Recreation (1 to 6 credit hours)
Intensive study of content, curriculum, method, or materials designed to meet the needs of preservice and in-service professionals in health, physical education, and recreation. Titles vary.

History/HST

101 Ancient and Medieval Europe (4 credit hours)
Examination of the character of the pre-modern world from prehistory through the 14th century with special attention to those aspects of ancient and medieval life that had the greatest effect on the development of Western society, politics, and culture.
102 Early Modern Europe: The 14th to 18th Centuries (4 credit hours)
Examination of the roots of the modern Western world emphasizing the revolution in economic, political, religious, and demographic realities that occurred between the 14th and 18th centuries.

103 Modern Europe: The 19th and 20th Centuries (4 credit hours)
Examination of the nature and consequences of modernization—its failures, accomplishments, and problems with special attention to the phenomena that shaped the Western world of the 19th and 20th centuries.

199 Studies in Selected Topics (1 to 4 credit hours)
Problems, approaches, and topics in the field of history. Topics vary.

200 Western Europe and Non-Western World (4 credit hours)
This course examines social, cultural, economic, religious and/or political interactions between Western Europe and the non-western World since 1500. Topics vary.

211 American Civilization to 1877 (3 credit hours)
Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. Colonial foundations to 1877.

212 American Civilization Since 1877 (3 credit hours)
Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. 1877 to the present.

214 African-American History (3 credit hours)
Survey of black people in American society from colonial slave trade to the present. African roots to 1877.

215 African-American History (3 credit hours)
Survey of black people in American society from colonial slave trade to the present. Reconstruction to the present.

218 History of Ohio to 1871 (3 credit hours)
French, British, American, and Indian conflict for control of Ohio; movement to statehood; evolution of political, economic, and cultural life from rural setting to industrialization and urbanization. Prehistory to 1871.

219 History of Ohio Since 1871 (3 credit hours)
French, British, American, and Indian conflict for control of Ohio; movement to statehood; evolution of political, economic, and cultural life from rural setting to industrialization and urbanization. Since 1871.

220 Introduction to Gender History (4 credit hours)
Courses will survey special topics in gender history, such as masculinity, femininity, sexuality, family, and women's history. Focus may be on one nation, region, or a comparative perspective.

221 American Diversities (4 credit hours)
Examines differences that have shaped American life and the ways in which Americans have responded to diversity. Topics may include ethnicity, race, region, religion, gender, sexual orientation, economic and social class, and political ideology.

301 Research Seminar (4 credit hours)
Students will learn to use various research tools and techniques and become proficient in presenting their research in a form acceptable to the scholarly community. Prerequisite: HST 101, 102, 103, 211 and 212.

315 History of France (4 credit hours)
History of France from the collapse of the Old Regime and the beginning of the French Revolution to the present. Focus on political, ideological, and cultural factors.

331 History of Canada: to 1867 (4 credit hours)
Challenges and survival. Colony to nation, 1497–1867.

335 Sports in American Life (4 credit hours)
Survey of the development of American sports from colonial times to 1980 with emphasis on the social, political, and ideological forces that transformed folk games into commercial ventures.

339 The Ancient Near East (4 credit hours)
Politics and cultures of Mesopotamia, Egypt, Palestine, Syria to ca. 525 B.C.

394 History of Greece to 404 BC (4 credit hours)
Minoan civilization, archaic and Hellenic Greece, and monarchies of the Hellenistic period with stress on cultural history to 404 B.C.

395 History of Greece 404 to 146 BC (4 credit hours)
Minoan civilization, archaic and Hellenic Greece, and monarchies of the Hellenistic period with stress on cultural history from 404 to 146 B.C.

400 Historiography (4 credit hours)
Introduction to the work of representative historians and important theories of historical interpretation. Prerequisite: 18 quarter hours of history.

401 Research Seminar (4 credit hours)
Students will learn to use various research tools and techniques and become proficient in presenting their research in a form acceptable to the scholarly community.

402 History Honors Project (4 to 12 credit hours)
May range from library research to the field training. Prerequisite: HST 301 and permission of department curriculum committee and supervising professor required.

405 Ancient History (4 credit hours)
Courses offered under this number examine selected problems in Roman history to the death of Constantine in A.D. 337. Topics vary.
410 The Middle Ages (4 credit hours)
Studies the decline of the Roman Empire to ca. 1450. Topics vary and can include European, Islamic, and Byzantine civilizations.

415 Medieval and Early Modern European History (4 credit hours)
Examines selected problems in European history from the late Middle Ages through the Counter-Reformation. Topics include the Renaissance and Reformation.

415 Early Modern European History (3 credit hours)
Examines selected problems in European history from the late Middle Ages through the Counter-Reformation. Topics include the Renaissance and Reformation.

425 Modern European History (4 credit hours)
Courses offered under this number examine a variety of countries, topics and periods in European history from the Enlightenment to the present. Titles vary.

435 British History (4 credit hours)
Courses offered under this number examine particular periods of British history (e.g., modern Britain) or topics (e.g., British constitutional history). Topics vary.

445 Middle Eastern History (4 credit hours)
Courses offered under this number examine the Balkans and the Middle East from the Middle Ages to the present. Topics may include Byzantine history, the Crusades, and the Middle East today. Topics vary.

455 Latin American History (4 credit hours)
Courses offered under this number examine selected Latin American nations (e.g., Mexico), particular topics (e.g., Authoritarianism), and Colonial Latin America. Titles vary.

460 Southeast Asian History (4 credit hours)
Examines periods of history in nations located between China and India (e.g., Vietnam) or selected topics (e.g., nationalism). Titles vary.

465 East Asian History (4 credit hours)
Examines various periods of Chinese, Japanese, and other East Asian histories or special topics.

470 Early American History (4 credit hours)
Examines colonial, revolutionary, and early republic periods of American history. Topics vary.

475 19th Century United States History (4 credit hours)
Courses offered under this number examine distinct periods in the 19th century (e.g., Civil War and reconstruction) and major topics such as slavery. Topics vary.

480 20th Century United States History (4 credit hours)
Courses offered under this number examine particular stages of the 20th-century American experience (e.g., the Progressive Era) or selected topics (e.g., the civil rights movement). Topics vary.

485 Special Topics in United States History (4 credit hours)
Courses offered under this number allow intensive analysis of topics drawn from the entire range of the American experience such as religion, diplomacy, women, immigration, and urbanization. Topics vary.

486 Gender History: Special Topics (4 credit hours)
Courses will allow intensive analysis of subjects in gender history. Topics may include masculinity, femininity, sexuality, family and women's history. Focus may be on one nation, region or comparative perspective. May be taken more than once for credit under different titles. Also listed as WMS 400.

487 Introduction to Public and Applied History (4 credit hours)
Introduces students to the origins, nature, and varieties of public history and to careers in the field. Explore issues of ethics and politics in public history. Enrollment restriction: upper division only.

488 History and New Media (4 credit hours)
Examines the impact of new media on access to primary sources, public programs, history education, scholarship, and the ways in which historians engage with each other. Presents productions in a variety of media.

490 Topics in African-American History (4 credit hours)
Examines topics drawing from the African-American experience; may include black ideology and leadership, racial tension in urban society, and the civil rights movement. Topics vary. Prerequisite: HST 211-212 or HST 214-215.

491 Independent Readings (1 to 4 credit hours)
Faculty-directed readings in a field of students' choice.

495 Comparative History (4 credit hours)
Courses offered under this number compare developments or movements in different parts of the world and/or different times in history such as revolutions, slave systems, religious movements, or other human experiences that transcend a particular time or place. Topics vary.

498 Historiography (American or European) (4 credit hours)
Introduction to the work of representative historians and important theories of historical interpretation. Prerequisite: 18 quarter hours of history.
International Business/IB

480 Special Topics in International Business (1 to 6 credit hours)
Reading or research in a select field of international business. Topics vary. Enrollment restriction: instructor permission only.

481 International Trade Internship (1 to 6 credit hours)
Practical application in international trade. Integrates academic learning with work experiences. Students apply classroom learning in an organizational setting. Limited to international business majors with senior status.

486 International Trade Management (4 credit hours)
Overview and application of the concepts and principles required to conduct import and export operations within the firm. Students apply international trade management concepts through participation in an international trade team project. Prerequisite: MGT 302, MKT 302, Fin 302.

Industrial & Systems Engineering/ISE

195 Fundamentals of Industrial and Systems Engineering (2 credit hours)
Provides students with an overview of how engineers design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy. (Previously listed as HFE 195, 2 credit hours)

301 Statistical Methods for Testing, Development and Manufacturing I (4 credit hours)
Presentation of statistical techniques as applied to engineering testing, development, and manufacturing. Introduces and applies probability distributions, measures of association, inferences on responses, and basic experimental design. Emphasizes application of statistical tools. Prerequisite: MTH 230 or equivalent.

302 Statistical Methods for Testing, Development and Manufacturing II (4 credit hours)
Continuation of HFE 301. Focus on analysis techniques for multiple variables, including ANOVA and multiple regression, as applied to engineering testing, development, and manufacturing. Process analysis and improvement techniques presented, along with tools for reliability analysis. Prerequisite: HFE 301 or ISE 301.

306 Human Factors in Engineering and Design (4 credit hours)
Introduction to the study of human factors in the design and operation of machine systems. Prerequisite: PSY 105, PSY 110, MTH 230.

307 Industrial Ergonomics (4 credit hours)
Introduction to the application of ergonomic principles to the industrial environment. Includes ergonomic planning and implementation, the work environment, NIOSH work factors, and work-station and equipment design.

431 Human Factors Engineering of Visual Displays (4 credit hours)
Introduction to the design of visual display systems. Topics include radiometry and photometry, visual perception, linear systems analysis, color displays, colorimetry three-dimensional displays, standards, and guidelines. Prerequisite: HFE 306 or ISE 306, EE 321.

450 Human Factors Engineering Analysis Methods (3 credit hours)
Provides human factors engineering students access to a variety of engineering and behavioral analytic techniques critical to the study of work performance. Prerequisite: PSY 105, 110, STT 361.

451 Industrial and Systems Engineering in Computer Systems Design (4 credit hours)
Theoretical paradigms in human-computer interaction and their application to interface design are examined. Emphasis is on advanced interface technologies, such as multimodal input/output, hypertext, and knowledge-based systems. Prerequisite: HFE 450 or ISE 450, CS 220, STT 361.

465 Interactive Systems Modeling, Analysis and Design (4 credit hours)
(Also listed as CEG 465.) Provides students experience in interactive real-time simulation, design, and implementation and evaluation of interfaces to simulations. The relevant topics are explored through application in supervisory control of complex, dynamic systems. Prerequisite: CEG 220 or any one of the following: CEG 221, CS 241, CS 242 or instructor permission.

470 Deterministic Operations Research Models (4 credit hours)
Introductory course on Deterministic Models in Operation Research and their Applications in Industrial and Systems Engineering. Students will formulate appropriate models, and obtain and interpret analytical results in the context of ISE problems. Prerequisite: MTH 253 and MTH 231.

471 Systems Performance Modeling (4 credit hours)
Study of quantitative techniques to analyze and predict systems performance. Topics include queuing models, system simulation, model validation, data collection, quantitative analysis of system performance, and system design evaluation. Prerequisite: HFE 450 or ISE 450, STT 361.
472 Design I (3 credit hours)
Segment one of the HFE senior design sequence. Practicum results in a conceptual design for the senior design project. The tutorial stresses human centered design principles. Prerequisite: HFE 471 or ISE 471.

473 Design II (3 credit hours)
Segment two of the HFE senior design sequence. Practicum results in a preliminary engineering design for the senior design project. The tutorial stresses principles of systems analysis and engineering. Prerequisite: HFE 472 or ISE 472.

474 Design III (3 credit hours)
Segment three of the HFE senior design sequence. Practicum results in the final engineering design and completion of the design project. The tutorial stresses application of HFE to systems design and industrial processes. Prerequisite: HFE 473 or ISE 473.

476 Aerospace Human Factors (4 credit hours)
Application of human factors engineering concepts to aerospace systems design. Develops human factors engineering influence on aerospace system dynamics, structure, and control as well as impact on reliability and maintainability. Prerequisite: HFE 471 or ISE 471.

480 Engineering in Occupational Safety and Health (4 credit hours)
Discusses and demonstrates the role and responsibility of engineers in occupational safety and health related issues. Focuses on the applications of human factors engineering design principles as a proactive approach for controlling occupational injuries. Prerequisite: HFE or ISE 306, 307, 450.

481 Engineering Economy (4 credit hours)
Introduction to analytical methods and techniques for optimizing the economic outcome of technical and managerial decisions. Includes time value of money, annual costs, present worth, future value, capitalized cost break-even analysis, and valuation and depreciation. Prerequisite: MTH 229.

482 Operations and Facilities Design (3 credit hours)
Provides a fundamental understanding of techniques for the layout and organization of operations in modern production and service facilities. Prerequisite: ME 408 or equivalent, HFE 471 or ISE 471 (COREQ) or equivalent or instructor permission.

483 Integrated Systems for Manufacturing (4 credit hours)
Explores industrial engineering concepts and quantitative techniques as it applies to manufacturing planning and control systems. Discusses production and service industries as well as supply chain systems. Prerequisite: MTH 231, ISE 301, ISE 470, ISE 471.

499 Special Problems in Industrial and Systems Engineering (1 to 5 credit hours)
Special topics in human factors engineering. Topics vary. (Previously listed as HFE 499, credit hours)

Italian/ITA

101 First-Year Italian (4 credit hours)
Study of the vocabulary and structure of the Japanese language: practice in conversation, reading, and writing. 101, 102, 103 must be taken in sequence.

102 First-Year Italian (4 credit hours)
Study of the vocabulary and structure of the Japanese language: practice in conversation, reading, and writing.

103 First-Year Italian (4.5 credit hours)
Study of the vocabulary and structure of the Japanese language: practice in conversation, reading, and writing.

111 Essentials of Italian (4 credit hours)
Introduction to Japanese with emphasis on speaking the language.

112 Essentials of Italian (4 credit hours)
Introduction to Italian with an emphasis on speaking the language. May be taken for a letter grade or pass unsatisfactory. Prerequisite: ITA 111 or permission of instructor.

201 Second-Year Italian (4 credit hours)
Continued study of the Japanese language with practice in speaking, reading, and writing. 201 and 202 must be taken in sequence. Prerequisite: ITA 103 or equivalent.

202 Second-Year Italian (4 credit hours)
Continued study of the Japanese language with practice in speaking, reading, and writing. Prerequisite: ITA 201 or equivalent.

Japanese/JPN

101 First Year Japanese (4 credit hours)
Study of the vocabulary and structure of the Japanese language: practice in conversation, reading, and writing. 101, 102, 103 must be taken in sequence.

102 First Year Japanese (4 credit hours)
Study of the vocabulary and structure of the Japanese language: practice in conversation, reading, and writing.
103 First Year Japanese (4 credit hours)
Study of the vocabulary and structure of the Japanese language; practice in conversation, reading, and writing.

111 Essentials of Japanese (4 credit hours)
Introduction to Japanese with emphasis on speaking the language.

201 Second Year Japanese (4 credit hours)
Continued study of the Japanese language with practice in speaking, reading, and writing.

202 Second Year Japanese (4 credit hours)
Continued study of the Japanese language with practice in speaking, reading, and writing.

Liberal Arts/LA

101 Introduction to Liberal Arts (2 credit hours)
Introduces liberal arts with an overview of program and career opportunities. Includes strategies for achieving academic success through time management, communication skills, note taking, test study, test taking, and enrichment opportunities.

199 Great Decisions (1 to 2 credit hours)
Faculty-led reading and discussion group centering on major foreign policy issues facing the United States. Topics vary.

201 Effective Career Planning (2 credit hours)
Assists students in developing academic major and career goals through identifying skills and interests and then researching appropriate options.

203 Sophomore Cooperative Education (2 credit hours)
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

205 Sophomore Cooperative Education (4 credit hours)
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated twice.

303 Junior Cooperative Education (2 credit hours)
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

305 Junior Cooperative Education (4 credit hours)
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

401 Implementing Career Decisions (2 credit hours)
Assists students in their career/job search through research, analysis, and structured exercises, the participants learn effective job-seeking skills. Final results for students should include discovering, exploring, and locating satisfying job situations.

403 Senior Cooperative Education (2 credit hours)
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

405 Senior Cooperative Education (4 credit hours)
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated twice. Prerequisite: full-time work experience.

490 Senior Project in Selected Studies (1 to 6 credit hours)
Intensive studies or work in a selected topic. Prerequisite: Permission of the degree committee.

Latin/LAT

101 Beginning Latin (4 credit hours)
Essentials of the Latin language.

102 Beginning Latin (4 credit hours)
Essentials of the Latin language.

103 Beginning Latin (4 credit hours)
Essentials of the Latin language. Prerequisite: LAT 102.

201 Intermediate Latin (4 credit hours)
Review of essentials and reading for comprehension in selected authors. Prerequisite: LAT 103 or equivalent.

202 Intermediate Latin (4 credit hours)
Review of essentials and reading for comprehension in selected authors. Prerequisite: LAT 103 or equivalent.

351 Readings in Roman Drama (4 credit hours)
Plautus, Terence, and Seneca. Study of at least one play in Latin. Topics include importance of Plautus and Terence for the reconstruction of Greek New Comedy, architecture of the Roman theatre, history of Roman tragedy, and the relationship of Seneca's tragedies to his Stoic philosophy. Prerequisite: LAT 202.
353 Readings in Roman Epic (4 credit hours)
Virgil’s Aeneid, Ovid’s Metamorphoses; Lucan, Statius, Valerius Flaccus, and Silius. Topics include intent and structure of the Aeneid, history and development of Roman epic, structure and transitional devices in the Metamorphoses, and the nature of rhetorical epic. Prerequisite: LAT 202.

355 Readings in Roman Poetry (4 credit hours)
Roman lyric and elegiac poetry; Virgil’s Eclogues; Catullus, Horace, Propertius, Tibullus, and Ovid. Topics include meters and style of Latin lyric, amatory tradition, and the influence of Hellenistic poetry. Prerequisite: LAT 202.

357 Readings in Roman Satire (4 credit hours)
Horace, Juvenal, Persius, Petronius, and Martial. Topics include development of this peculiar Roman genre, fragments of Lucilius, satirical methods and techniques, satiric epigram, and satire as a source of information about Roman private life. Prerequisite: LAT 202.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of Latin. Topics vary.

451 Readings in Roman Didactic Literature (4 credit hours)
Study of Roman philosophical and didactic literature: Lucretius, Virgil’s Georgics, Cicero’s philosophical essays, and Quintilian. Topics include Roman attitudes toward Epicureanism, farming as a symbol of contemporary Roman politics, Cicero’s synthesis of Greek philosophy, Quintilian, and a gentleman’s education. Prerequisite: LAT 202.

453 Readings in Roman History and Biography (4 credit hours)
Sallust, Livy, Tacitus, and Suetonius. Topics include Roman historiographical tradition, family and political influences, evidence from nonliterary sources, and influence from Greek historiography. Prerequisite: LAT 202.

455 Readings on Roman Politics and Government (4 credit hours)
Cicero’s political essays and speeches; the letters of Cicero and Pliny. Topics include the nature of Roman political campaigns, selections from Roman constitutional law, information from inscriptions, and Augustus’ Res Gestae. Prerequisite: LAT 202.

Business Law/LAW

300 The Legal Environment of Business (4 credit hours)
Legal environment in which business functions. Introduction to law and legal systems, civil law, and white-collar crime. Public law topics include government regulation. Private law topics include torts and contracts.

420 Legal Aspects of Managing a Diverse Workforce (4 credit hours)
U.S. and state employment discrimination law, court decisions, enforcement, and workforce diversity.

440 Legal Aspects of Managing Employees (4 credit hours)
This course acquaints students with two major areas of study, employer and employee rights and responsibilities. Both are basic areas of common business knowledge required for effective human resource management within organizations. Prerequisite: LAW 300.

477 Special Studies (1 to 4 credit hours)
Reading or research in selected area of business law.

480 Special Topics in Law (1 to 4 credit hours)
Topics vary.

Linguistics/LI

371 Introduction to Historical and Comparative Linguistics (4 credit hours)
Principles of historical and comparative study of languages; introduction to Indo-European, Germanic, Romance, and Slavic philology.

399 Studies in Selected Subjects (1 to 4 credit hours)
Deals with problems, approaches, and topics in the field of linguistics. Topics vary.

Microbiology & Immunology/M&I

220 Microbiology of Human Environment (5 credit hours)
Biology of viruses, bacteria, fungi, protozoans, and helminths as related to their natural environments and host-parasite interaction. Introductory course for students in environmental health, nursing, and patient-oriented paramedical health professions. Four hours lecture, two hours lab. Prerequisite: BIO 105 or equivalent; CHM 101 or 102.

427 Pathogenic Microbiology (3 credit hours)
Study of microorganisms pathogenic for humans and animals using the organ system approach with emphasis on mechanisms of pathogenesis and host resistance. Prerequisite: BIO 202, 402, CHM 216, M&I 426 or department consent.

431 Basic Virology (3 credit hours)
Introduction to the field of virology: plant, animal, and bacterial viruses. Emphasis on the intrinsic properties of viruses and their interaction with cells, multiplication, genetics, and tumor induction. Prerequisite: BIO 402, BCH 421, M&I 427, or consent of department.
462 Immunology (3 credit hours)
Study of the immune system with emphasis on basic molecular and cellular mechanisms and applications to human disease. Prerequisite: BIO 112, 114, 115 or instructor permission.

488 Independent Reading (1 to 4 credit hours)
Independent Reading

499 Special Problems in Microbiology
(1 to 4 credit hours)
Special Problems in Microbiology Prerequisite: A minimum 2.2 cumulative grade point and consent of department.

Mechanical & Materials Engineering/ME

199 Fundamentals of Engineering Design
(3 credit hours)
Introduction to the principles and practice of mechanical and materials engineering design. Fundamental design philosophy using a hands-on approach, including topics such as safety, ethics, and product liability. Teamwork and communicated skills are stressed.

201 Computer-Aided Drafting (2 credit hours)
Basic techniques of computer-aided engineering drawing. Graphic primitives, drawing, editing, dimensioning, multiple views, hatching, drawing intelligence, and three-dimensional modeling. One hour lecture, two hours lab. Prerequisite: A fundamental course in engineering drawing.

202 Engineering Graphics (4 credit hours)
Basic concepts of engineering drawing with applications to manual and computer-aided drafting: multiview projections: sectional, auxiliary, and pictorial views: dimensioning: and intersections and developments.

212 Statics (4 credit hours)
Forces, resultants, components, equilibrium of particles, equilibrium of rigid bodies, centroids and centers of gravity, analysis of structures, friction, and moments of inertia. Prerequisite: MTH 231, PHY 240.

213 Dynamics (4 credit hours)
Vector treatment of the kinematics and kinetics of particles and rigid bodies, based on Newton's laws and including work-energy and impulse-momentum techniques. Prerequisite: ME 212, PHY 240.

220 Manufacturing Process (3 credit hours)
Fundamentals of manufacturing processes, materials, measurement and quality assurance, casting processes, forming processes, material removal processes, joining processes, and other processes and techniques related to manufacturing.

313 Strength of Materials (5 credit hours)
Discusses axial and shear stresses and strains, bi-axial loading, torsion of circular shafts, shear and bending moment diagrams, deflection of beams, and column theory. Four hours lecture, two hours lab. Prerequisite: ME 212, PHY 240, EGR 153.

315 Thermodynamics I (4 credit hours)
Classical thermodynamics with applications of the first and second laws to engineering systems. Prerequisite: PHY 244—Corequisite: MTH 232.

316 Thermodynamics II (4 credit hours)
Concepts of availability and irreversibility, power and refrigeration cycles, thermodynamic relations, and mixtures and combustion. Three hours lecture, two hours lab. Prerequisite: ME 315.

317 Fluid Dynamics (4 credit hours)
Study of fluid properties; fluid statics, one-dimensional compressible and incompressible flows; and flow of real fluids, flow measurement. Three hours lecture, two hours lab. Prerequisite: ME 213, ME 315.

318 Heat Transfer (4 credit hours)
Principles that govern heat transfer in solids, fluids, vacuum, and at interfaces of solids and fluids. Laboratory experiments to illustrate these phenomena. Three hours lecture, two hours lab. Prerequisite: ME 317.

370 Materials Engineering Science: Introduction
(4 credit hours)
Effect of atomic, molecular, and crystalline structure on the properties of materials with emphasis on electronic materials and ceramics, characterization of materials; and device fabrication. Prerequisite: CHM 122, PHY 242.

371 Structure and Properties of Engineering Materials (3 credit hours)
Effect of microstructure, phase equilibrium, and processing on properties of structural materials including metallic alloys, polymers, and composites. Prerequisite: ME 313, ME 370.

375 Thermodynamics of Materials (4 credit hours)
Application of classical thermodynamics to engineering materials. Heats of formation and reaction; behavior of solutions; free energy concepts; thermodynamic fundamentals of phase equilibria. Prerequisite: ME 315; Corequisite: ME 371.

376 Physical Metallurgy (3 credit hours)
Fundamentals of structure property relations in metals and alloys related to transformations and kinetics. Application to recovery and recrystallization, solidification, precipitation strengthening, and displacive transformations. Prerequisite: ME 375.
405 Kinematics and Design of Mechanism
(4 credit hours)
Graphic, analytical, numerical, and symbolic techniques are used in the kinematic and dynamic analysis of machines. Computer-aided design of mechanisms is introduced. Emphasis on the application of these techniques to planar mechanisms. Prerequisite: ME 213.

408 Design Optimization (3 credit hours)
Concepts of minima and maxima; linear, dynamic, integer, and nonlinear programming; variational methods. Engineering applications are emphasized. Prerequisite: ME 213, EE 320, MTH 253.

409 Aerospace Structures (4 credit hours)
Stress, deformation, and stability analysis of aerospace structures. Thin-walled members bending, torsion, and shear stresses calculation in multicell structures. Buckling of thin plates. Prerequisite: ME 313.

412 Finite Element Analysis (4 credit hours)
Finite element formulations for line, surface, bending, torsion, and three dimensional elements. Numerical methods and application of FEM programs in structural design and solid mechanics. Prerequisite: MTH 233, ME 313.

414 Mechanical Design I (4 credit hours)
Fundamental concepts in design for static strength, fatigue, and impact loading; application to selected mechanical components and systems. Prerequisite: ME 313.

415 Mechanical Design II (4 credit hours)
Design of mechanical elements such as springs, bearings, shafts, gears, clutches, brakes, and flywheels. Students conduct an individual design project. Prerequisite: ME 414.

417 Mechanics of Viscous Fluids (3 credit hours)
Fundamental equations of viscous flow for laminar and turbulent flows. Boundary layer analysis. Analytical and numerical solutions of the equation of motion. Prerequisite: ME 317.

418 Heat Conduction Solids (3 credit hours)
Analytical and numerical techniques for heat conduction problems in one, two, and three dimensions for steady and transient cases. Phase-change problems. Prerequisite: ME 318.

423 Energy Conversion (4 credit hours)
Important new developments in energy conversion. Thermoelectric, photoelectric, thermionic, and electromechanical systems are studied. Prerequisite: ME 315.

430 Aeronautics (4 credit hours)
Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control, and astronautics and propulsion concepts. Prerequisite: ME 213, ME 315.

431 Aerospace Propulsion (4 credit hours)
Engine cycle analysis; combustion fundamentals; reciprocating engines, propellers; applications to turbojet, turboprop, ramjet, SCRAM jet, and rocket engines. Prerequisite: ME 317.

432 Flight Dynamics and Control Systems
(4 credit hours)

434 Computational Fluid Dynamics (4 credit hours)
Introduction to CFD methods; governing equations, PDEs, finite difference numerical methods, stability analysis, incompressible and compressible flows, subsonic to supersonic flows. Prerequisite: ME 317.

442 Vehicle Engineering (3 credit hours)
Develops students' abilities to derive and solve vehicle equations and introduces how dynamic analysis is used in vehicle design. Various performance criteria, control concepts, and HEVs will be studied. Prerequisite: ME 213.

444 Principles of Internal Combustion Engines
(4 credit hours)
Thermodynamics of I.C. engines, combustion thermodynamics, friction, heat and mass losses, and computer control of the modern fuel-injected I.C. engine. Prerequisite: MTH 232, ME 316, ME 317.

456 Introduction to Robotics (4 credit hours)
Introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, jacobians and control. Prerequisite: Senior standing in College of Engineering and Computer Science and MTH 253; Proficiency in Pascal, C, or Fortran Programming.

458 Instrumentation and Measurement
(4 credit hours)
Develops understanding in measurements, conveys the principles and practice for design of systems including uncertainty and signal reconstruction, and establishes the physical principles and techniques used to measure those quantities most important for applications. Develops understanding in measurements, conveys the principles and practice for design of systems including uncertainty and signal reconstruction, and establishes the physical principles and techniques used to measure those quantities most important for applications. Prerequisite: EE 301 or equivalent.
460 Mechanical Vibrations (4 credit hours)
Modeling and analysis of single and multi-degree of freedom systems under free and forced vibration and impact. Lagrangian and matrix formulations, energy methods, and introduction to random vibrations. Prerequisite: EE 321, ME 213.

464 Mechanical System Modeling & Design (4 credit hours)
Engineering aspects of failure analysis, failure mechanisms and related environmental factors, and analysis of actual service failure. Prerequisite: ME 213.

470 Failure Analysis (3 credit hours)
Engineering aspects of failure analysis, failure mechanisms and related environmental factors, and analysis of actual service failure. Prerequisite: ME 313, ME 371.

472 Structure & Properties of Engineering Polymers (4 credit hours)
The design and use of high temperature superalloys, strengthening mechanisms, creep and fatigue, corrosion and oxidation, protective coatings, and alternative materials. Prerequisite: ME 370.

475 High Temperature Materials (3 credit hours)
The design and use of high temperature superalloys, strengthening mechanisms, creep and fatigue, corrosion and oxidation, protective coatings, and alternative materials. Prerequisite: ME 376, ME 477 corequisite.

477 Mechanical Behavior of Materials (4 credit hours)
Crystal plasticity and single crystal behavior, Introduction to dislocation theory, Strengthening mechanisms and polycrystalline behavior, Introduction to viscoelasticity, Fracture, fatigue, and creep of materials. Prerequisite: ME 313, ME 371.

478 X-ray Spectral Analysis (3 credit hours)
(Also listed as GL 474.) Electron microprobe and X-ray fluorescence for analysis of alloys and other materials explained and demonstrated on examples. Two hours lecture, one hour lab. Prerequisite: ME 482.

479 Materials Corrosion (4 credit hours)
(Also listed as CHM 479.) Survey of principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included. Prerequisite: ME 315, ME 371, or corequisite CHM 453.

480 X-ray Methods in Materials Science (4 credit hours)
Introduction to the theory and practice of diffraction methods in the study of alloys, refractory materials, and polymers. Two hours lecture, four hours lab. Prerequisite: ME 376.

481 Materials Characterization (4 credit hours)
Principles of characterization of materials based on particle and wave taxonomies integrated with sensor methods and principles. Prerequisite: ME 371.

482 Introduction to Transmission Electron Microscopy (4 credit hours)
Principles that govern image formation and electron diffraction of crystalline materials, laboratory demonstrations and experiments to illustrate the principles. Three hours lecture, one hour lab. Prerequisite: ME 371.

483 Introduction to Ceramics (3 credit hours)
Ceramic and refractory raw materials and products; atomic structure and bonding; structure of crystalline phases and glasses; structural imperfections; diffusion in oxides; phase equilibria; and processing of ceramics. Prerequisite: ME 375.

484 Physical Ceramics (4 credit hours)
Processing, microstructure, and properties of ceramics; defect equilibria in oxides, thermal, optical, electrical, and mechanical properties of ceramic materials; ceramics for special applications. Three hours lecture, two hours lab. Prerequisite: ME 483.

485 Solidification Processing (4 credit hours)
Fundamentals of melt solidification, application to metals casting technology, and an introduction to powder metallurgy. Three hours lecture, two hours lab. Prerequisite: ME 375.

486 Deformation Processing (4 credit hours)
Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability, and mechanics and analysis of selected processes. Three hours lecture, two hours lab. Prerequisite: ME 313, ME 371.

487 Machining (4 credit hours)
Fundamentals of machining with an emphasis on engineering models of machinability, chip formation, cutting forces and power, and lubrication. Introduction to numerical control machining. Three hours lecture, two hours lab. Prerequisite: ME 371.

488 Powder Processing (4 credit hours)

489 Engineering Plastics: Materials, Processes, and Design (4 credit hours)
(Also listed as CHM 469.) Properties and manufacturing processes of engineering plastics and effect of these factors on plastics design. Illustrative laboratory projects included. Two hours lecture, four hours lab. Prerequisite: CHM 465.
490 Engineering Design I (4 credit hours)
Independent investigation of contemporary engineering problems under the guidance of an instructor. Topics selected to meet the needs and interests of students. Research of professional literature and submission of an engineering report required. Two hours lecture, two hours lab, one-hour recitation. Prerequisite: ME 316, ME 317, ME 371, ME 408, ME 414.

491 Engineering Design II (4 credit hours)
Independent investigation of contemporary engineering problems under the guidance of an instructor. Topics selected to meet the needs and interests of students. Research of professional literature and submission of an engineering report required. Two hours lecture, two hours lab, one-hour recitation. Prerequisite: ME 490.

492 Materials Engineering Design (4 credit hours)
Independent investigation of a contemporary problem in materials science and engineering under faculty guidance. Project design and reporting are emphasized along with analysis, synthesis, and testing. Prerequisite: ME 376 and ME 386.

493 Materials Engineering Design II (4 credit hours)
Independent investigation of a contemporary problem in materials science and engineering under faculty guidance. Project design and reporting are emphasized along with analysis, synthesis, and testing. Prerequisite: ME 492.

499 Special Problems in Mechanical and Materials Engineering (1 to 5 credit hours)
Special problems in advanced engineering topics. Topics vary.

Management/MGT

100 The World of Business and Administration (3 credit hours)
An introduction to the elements of the business environment and the major functions of business: management, marketing, manufacturing, human resources, finance, and accounting.

101 Community Leadership (3 credit hours)
Provides experiential skill development in the areas of leadership and community service. Students will complete a group community service project, which will be developed in conjunction with the Junior Leadership Dayton program. Open only to Junior Leadership Dayton students. Graded pass/unsatisfactory.

200 Elements of Management and Supervision (4 credit hours)
For non-business students to acquire a basic understanding of the history, practices, and roles of managers in work organizations.

304 Management and Organizational Behavior (4 credit hours)
Introduction to fundamental concepts necessary for understanding behavior in an organizational setting. Course incorporates three levels of analysis (individual, group, and organizational) to provide students with a balanced foundation for developing effective management skills.

321 Human Resource Management (4 credit hours)
Theories and concepts of the role of human management functions in an organization. Course incorporates key human resource responsibilities, providing students with a strong foundation of theory and application. Prerequisite: MGT 304.

410 Organizational Development (4 credit hours)
Focuses on development as a systematic, continuing process designed to improve an organization's ability to cope with change. Topics include anticipation of change, overcoming resistance, and intervention strategies. Writing intensive course. Prerequisite: MGT 321.

411 Leadership and Effective Teams (4 credit hours)
Theories and concepts underlying the concept of leadership. This course incorporates theoretical and practical application as it applies to the individual, group, and organization, with an emphasis on effective team leadership. Prerequisite: MGT 321.

412 Labor Relations (4 credit hours)
This course provides two perspectives: maintaining an organization that is union-free, and effectively managing in a union environment. The critical aspects of both types of organizations will be examined in this course. Prerequisite: MGT 321.

425 Human Resource Consulting Skills (4 credit hours)
Designed to increase awareness of and skills in developing quality business practices. Relationships among total quality, quality project management, and organizational process capability assessments are delineated. Demonstrating competencies in quality projects is required.
475 Small Business Consulting (4 credit hours)
Students work as consulting teams with local small businesses. Teams create formal reports for companies that analyze the situation and provide recommendations for the future. This class provides excellent hands-on application of previous coursework. Prerequisite: MGT 304, MKT 300, Fin 310.

477 Special Studies in Management (1 to 4 credit hours)
Reading or research in a selected field of management. Topics vary.

478 Honors: Independent Study in Management (4 credit hours)
Research in management for fulfillment of the Honors program project requirement.

480 Special Topics in Management (1 to 4 credit hours)
Seminar in special topics such as organizational assessment, training and development, and personal career development. Topics vary.

481 Internship (3 to 6 credit hours)
A practical application that integrates academic learning with HRM or management work experiences. This linkage allows students to test their classroom learning in an organizational setting. Limited to HRM and management majors with senior status. Prerequisite: instructor approval required.

485 International Management (4 credit hours)
Studies fundamental concepts of international management and examines cultural, institutional, behavioral, and management systems and their operation in the international sphere. Prerequisite: MGT 304.

493 Public Policy in the Business Environment (4 credit hours)
Relationship between business and government: the business environment and public policy, the corporate role in American society, and business social responsibility. Prerequisite: Senior standing and admission to the College of Business and Administration and LAW 350.

495 Human Resources Strategy Practicum (4 credit hours)
As a continuation of MGT 425, students work in teams to study HR strategy as HR consultants to local small businesses. Topics to be covered include strategy formulation, implementation, planning, and policy development. Prerequisite: Open only to Human Resource Management Seniors who have completed a majority of their major course work. MGT 425.

499 Strategic Management and Organizational Policy (4 credit hours)
Integrative course requiring application of all functional areas of business in the analysis and solution of business problems. Strategic management is the core synthesizing concept of study. Students are required to work in teams. Prerequisite: Senior standing and admission to the College of Business and Administration.

Military Science/MIL

111 Introduction to Military Science I (1 credit hour)
Introduction to customs, courtesies, doctrine, and organization of the U.S. Army, and policies affecting deployment of land forces.

112 Introduction to Military Science II (1 credit hour)
Introduction to leadership emphasizing fundamentals and principles of leadership, characteristics of a group, and traits of a leader. Prerequisite: MIL 111 or permission of instructor.

113 Introduction to Military Science III (1 credit hour)
Analysis of leadership theories and management tasks including analysis of organizational structures, planning and organizing, and controlling rewards and punishments. Extensive use of case studies in leadership and management.

211 Introduction to Military Leadership I (2 credit hours)
Analysis of the light infantry squad’s weapons and employment and the leader’s role in directing and controlling small units in the execution of offensive and defensive tactical missions. Two hours lecture, one-hour lab.

212 Introduction to Military Leadership II (2 credit hours)
Hands-on approach to the fundamentals of military map reading. Emphasis on identification of terrain features, using grid systems, plotting locations, measuring distances, intersection, resection, and graphic representation.

213 Introduction to Military Leadership III (2 credit hours)
Analysis of the small unit leader’s role in the execution of tactical missions. Requires weekend training exercises and participation in a physical fitness program. Two hours conference, one hour lab.

311 Small Unit Leadership I (2 credit hours)
Analysis of the small unit leader’s role in the execution of tactical missions. Requires weekend training exercises and participation in a physical fitness program. Two hours conference, one hour lab, Prerequisite: MIL 111, 112, 113, 211, 212, 213, or equivalent.
312 Small Unit Leadership II (2 credit hours)
Study of military weapons and equipment and analysis of geography as it pertains to military operations. Requires participation in weekend exercises and physical training programs. Two hours conference, one hour lab. Prerequisite: MIL 311.

313 Small Unit Leadership III (2 credit hours)
Development of ability to express oneself clearly and accurately with emphasis on analysis of military problems, evaluation of situations, and preparation and delivery of logical solutions. Requires participation in weekend training exercises and physical training programs. Two hours conference, one hour lab. Prerequisite: MIL 312 or permission of PMS.

411 Advanced Leadership I (2 credit hours)
Study of the organization and functions of military staffs with an in-depth analysis of the coordinating staff. Introduction into officer-enlisted relations. Requires participation in weekend training exercises and a physical fitness program. Two hours conference, one hour lab. Prerequisite: MIL 311, 312, 313 or permission of instructor.

412 Advanced Leadership II (2 credit hours)
Briefing techniques/formats. Introduction to professionalism and military professional ethics. Requires participation in weekend training exercises and a physical fitness program. Two hours conference, one hour lab. Prerequisite: MIL 411 or permission of instructor.

413 Advanced Leadership III (2 credit hours)
Study/analysis of selected leadership and management problems within the military justice system. Introduction to the counseling obligations and responsibilities of an officer. Requires participation in weekend training exercises and a physical fitness program. Two hours conference, one hour lab. Prerequisite: MIL 411, 412 or permission of instructor.

450 Advanced Topics (1 credit hour)
Independent study project on selected recent or current events that impact on U.S. Army operations, doctrine, structure, planning, or organization. A detailed presentation, causes, actions, and results of a selected topic. Prerequisite: MIL 411, 412, and 413.

Management Information/MIS

100 Introduction to Computer-Based Information Systems (4 credit hours)
Computer literacy, information processing fundamentals, and terminology pertinent to using and developing computer applications. Students access database software and the Internet in the lab session. Three hour lecture, one hour lab.

210 Business Data Structures (3 credit hours)
Abstract data types, data structures, and their implementation in C/C++ programs. Data structures covered include stack, queue, lists, trees, and graphs. Course requirements include designing and testing C/C++ programs for business applications. Prerequisite: CS 209; MTH 228.

215 Business Data Structures (4 credit hours)
Abstract data types, data structures, and their implementation in object-oriented programs. Data structures covered include stacks, queues, lists, trees, and graphs. Course requirements include designing and testing object-oriented programs for business applications. Prerequisite: CS 209, MTH 228. Prerequisite: CS 209, MTH 228.

300 Introduction to Management Information Systems (4 credit hours)
Examination of management information systems from a user perspective. Emphasis on the system life cycle, including computer system analysis and design and the software development life cycle. Data base support used to build an information system. Three hours lecture, two hours lab. Prerequisite: CS 205.

305 Business Operating Systems (4 credit hours)
Review of computer architecture and system administration. Topics include processor management, concurrent programming, memory management, file system, I/O system, network system, and system maintenance. Emphasis is on system administration and programming in business organizations. Prerequisite: MIS 215. Prerequisite: MIS 215.

321 Systems Analysis Methodologies (3 credit hours)
Overview of the system analysis process. System analysis methodologies are presented through techniques that describe planning, process and data flow, data structure, and documentation techniques. Information gathering is explored. Prerequisite: MIS 300 or CS 208.

322 Systems Design and Implementation (3 credit hours)
Concentrates on strategies and techniques for design and implementation of an information system. Students learn to develop design and implementation specifications and test plans for information systems. Prerequisite: MIS 321.

323 Management of IS Projects (3 credit hours)
Examines the process of managing and developing information systems projects. Topics include project workload estimation, project planning, project management tools and strategies, change, agent, ethics, and ensuring IS quality. Prerequisite: MIS 321.
325 Analysis and Design of Information Systems
(4 credit hours)
Overview of the system analysis and design methodologies. Topics include planning, SDLC, project management overview, data, process and logic modeling techniques. Students learn to specify design, implementation, specifications, and testing plans. Prerequisite: MIS 300.

345 E-Business Strategy, Design and Application
(4 credit hours)
An introduction to E-business strategy and design. Students will examine electronic methods of delivering products and services between organizations (B2B) and consumers (B2C). A solution to an e-business case will be developed. Prerequisite: MIS 300.

415 Business Database Systems (4 credit hours)
Understanding concepts, principles and data models of managing organizational data. Students will gain extensive experience in developing data models, applying relational database software, creating and using complex queries, and learning recent topics. Prerequisite or Corequisite: MIS 325. Prerequisite or corequisite: MIS 325.

425 Business Networks and Telecommunications
(4 credit hours)
Familiarize students with the background, concepts, types, proper applications, and components of telecommunications, network design, and distributed information systems. Emphasis is on the telecommunications technology and its impact on information systems and business operations. Prerequisite: MIS 300. Prerequisite: MIS 300.

435 Decision Support Systems (4 credit hours)
Concentrates on the adaptive design process of building decision support systems through integration of data and model bases for individual and organizational decision-making. Emphasis is on requirements determination phase and evaluation phase. Prerequisite: MIS 325 and MS 205.

450 Systems Development and Implementation
(4 credit hours)
An introduction to the basic principles, methods, and tools of software development. Concentrates on software development discipline, encompassing different paradigms and methods. Topics include software conventional and object-oriented design and development methods, software quality assurance, and software measurement. Prerequisite: MIS 325.

477 Special Studies in MIS (1 to 4 credit hours)
Research in selected fields of management information systems. Topics vary.

478 Honors: Independent Study in MIS
(4 to 8 credit hours)
Research in management information systems for fulfillment of the honors project requirement. Senior MIS majors only.

480 Special Topics in Management Information Systems
(4 credit hours)
Cutting edge topics could include Information Security, Enterprise Integrated Systems and Data Mining and Data Warehouse.

481 Internship in Management Information Systems
(1 to 8 credit hours)
Faculty-supervised internship in management information systems. Students work on an information systems project in a firm or public agency and submit reports for completion of the course.

495 Information System Project Management and Development
(4 credit hours)
Introduce concept, practice, and the importance of project management. Students work in teams to gain practical experience in analyzing, designing, implementing, evaluating, and development of information system, for businesses and non-profit organizations. Prerequisite: MIS 415, MIS 450.

Marketing/MKT

300 Principles of Marketing (4 credit hours)
Survey course dealing with the role of marketing in society, customer selection, product management, channels of distribution, pricing concepts, promotional activity, research and planning within an economic and business environment.

303 Consumer Behavior (4 credit hours)
An understanding of the purchase decision processes of individuals and families. Examination of psychological, societal, and cultural influences on consumer decisions. Marketing strategy implications of conceptual constructs are discussed throughout the course. Prerequisite: MKT 300 with a grade of “C” or better.

325 Sports and Event Marketing (4 credit hours)
Overview of the multidimensional activities within this industry. An industry framework will be presented to explain the strategic marketing process, contrasting its similarities and differences to the well-studied marketing process. Prerequisite: MKT 300 with a grade of “C” or better.

356 Services Marketing (4 credit hours)
Explores the fundamental product, price, promotion, and distribution issues that require special attention in the marketing of services and their related concurrent and emerging theories and strategies for effective implementation. Prerequisite: MKT 300 with a grade of “C” or better.
Personal Selling and Sales Management (4 credit hours)
Emphasizes personal selling-marketing relationships, buyer motivation and behavior, selling strategy, and techniques of selling. Objectives, policies, and techniques of sales force management including financial and performance responsibilities and opportunities. Prerequisite: MKT 300 with a grade of "C" or better.

Price Management (4 credit hours)
Evaluation and application of existing and developing pricing techniques, procedures, concepts, and theories to simulated and real price management problems. Prerequisite: MKT 300 with a grade of "C" or better.

International Marketing (4 credit hours)
Analysis of the nature and scope of international marketing including its managerial and operational problems. Emphasis is on the role of environmental differences that influence marketing strategy. Prerequisite: MKT 300 with a grade of "C" or better.

Supply-Chain Distribution (4 credit hours)
Introduction to the concepts and procedures, the importance, and the management of the "supply chain" that physically moves products and services down the chain of companies to the final consumer. Prerequisite: MKT 300 with a grade of "C" or better, MS 307.

Integrated Marketing Communications (4 credit hours)
The course will introduce students to integrated marketing communications including advertising, direct marketing, public relations and sales promotion. Includes discussion of creative and media strategies. Prerequisite: MKT 300 with a grade of "C" or better.

Technology in Marketing (4 credit hours)
Understanding marketing technologies. Topics will vary: may include micro marketing, geo-demographic marketing, data mining, Internet marketing, diffusion models, competitive advantage, Howard models of consumer behavior and sales forecasting. Prerequisite: MKT 300 with a grade of "C" or better, MIS 300.

Marketing Analysis (4 credit hours)
Examination of marketing research processes. Focuses on concepts and procedures, the importance and the management of research in marketing. Prerequisite: MKT 300, MS 204 or equivalent with a grade of "C" or better.

Marketing Strategy (4 credit hours)
The goals of the course are to develop students' abilities to recognize opportunities and solve problems related to marketing strategy and improve students' decision making skills as applied to the planning of marketing programs. Prerequisite: MKT 451 with a grade of "C" or better, MKT 303 with a grade of "C" or better.

Principles of Retailing (4 credit hours)
Analysis of the performance of marketing functions at the retail level. Emphasis on institutional and competitive factors and management of the marketing mix as it relates to retail market segments. Prerequisite: MKT 300 with a grade of "C" or better.

Business-to-Business Marketing (4 credit hours)
Explores business-to-business marketing—the marketing of goods and services to businesses rather than consumers. Examines the difference between consumer and business marketing in target markets, product, price, promotion, distribution and the environment. Prerequisite: MKT 300 with a grade of "C" or better.

Entrepreneurship (4 credit hours)
How to start your own business. Concepts and techniques of planning to initiate or purchase a company. Students develop a written business plan for a new venture. Prerequisite: MKT 300 with a grade of "C" or better. Fin 310, ACC 323.

Independent Studies in Marketing (1 to 4 credit hours)
Research in marketing for fulfillment of the Honors program project requirement. Prerequisite: MKT 303 and 8 hours of marketing electives with a grade of "C" or better. Maximum 4 hours of elective credit.

Honors: Independent Study in Marketing (4 credit hours)
Research in marketing for fulfillment of the Honors program project requirement. Prerequisite: MKT 303 and 8 hours of marketing electives with a grade of "C" or better. Maximum 4 hours of elective credit.

Special Topics in Marketing (4 credit hours)
Seminar in special topics such as consumerism and social issues, nonprofit organization marketing, advanced retail management, channels of distribution, and forecasting. Topics vary.

Internship in Marketing (1 to 4 credit hours)
Faculty-supervised internship in marketing area. Prerequisite: MKT 303 and 8 hours of marketing electives with a grade of "C" or better. Maximum 4 hours of elective credit.

Senior Projects in Marketing (4 credit hours)
Final course to integrate the students' work in marketing and to promote marketing problem-solving capabilities. Involves group preparation and presentation of a marketing plan. Prerequisite: MKT 303, 451 and 8 hours of marketing electives with a grade of "C" or better.
Modern Language Humanities/ML

301 French Culture (4.5 credit hours)
Study of French culture according to language distinctions with emphasis on the uniqueness within the family of nations.

302 Germanic Culture (4 credit hours)
Study of German culture according to language distinctions with emphasis on the uniqueness within the family of nations.

303 Spanish Culture (4 credit hours)
Study of Spanish culture according to language distinctions with emphasis on the uniqueness within the family of nations.

304 Spanish-American Culture (4 credit hours)
Study of Spanish-American culture according to language distinctions with emphasis on the uniqueness within the family of nations.

305 Russian Culture (4 credit hours)
Study of Russian culture according to language distinctions with emphasis on the uniqueness within the family of nations.

306 Introduction to Brazilian Culture (4 credit hours)
Selected works of foreign literature studied in English translation. French literature.

311 French Literature in Translation (4 credit hours)
Selected works of foreign literature studied in English translation. French literature.

312 German Literature in Translation (4 credit hours)
Selected works of foreign literature studied in English translation. German literature.

313 Russian Literature in Translation (4 credit hours)
Selected works of foreign literature studied in English translation. Russian literature.

314 Spanish Literature in Translation (4 credit hours)
Selected works of foreign literature studied in English translation. Spanish literature.

315 Spanish-American Literature in Translation (4 credit hours)
Selected works of foreign literature studied in English translation. Spanish-American literature.

316 Scandinavian Literature in Translation (4 credit hours)
Selected works of foreign literature studied in English translation. Scandinavian literature.

369 Children’s Literature for Teachers of Foreign Languages (3 credit hours)
Problems, approaches, and topics in the field of modern languages. Topics vary. Prerequisite: SPN 202, or FR 202, or RUS 202, or GER 202.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of modern languages. Topics vary.

Motion Picture/MP

131 Film Appreciation (4 credit hours)
Introduction to film appreciation and analysis; examines critical approaches to film and film style including authorship and genre.

180 Film Production I (3 credit hours)
Introduction to the basic elements of film production including scripting, cinematography, editing, and sound. Participation on super-8 film projects from initial conception to final screening.

231 History of the Motion Picture I (3 credit hours)
Historical development of the art of the film from 19th-century scientific experiments through the end of silent era. Examination of technical, social, economic, and cultural factors that have shaped film art.

232 History of the Motion Picture II (3 credit hours)
Historical development of the art of the film from beginning of the sound era to the mid-fifties. Consideration of both American and European film and relation of films to sociocultural conditions.

233 History of the Motion Picture III (3 credit hours)
Historical development of the art of the film from the beginning of the mid-fifties to the present. The decline of the studio system, major film movements of the sixties, and the rise of independent feature production are considered.

253 Basic Video Production (3 credit hours)
(Also listed as COM 253.) Introduction to the use of video production equipment, using lecture. demonstration, and experiential approaches. Appropriate laboratory time provided in television studio. Prerequisite: COM 152, or permission of instructor.

281 Intermediate Film Production (3 credit hours)
Production of medium length film projects under faculty supervision. Review of lip-sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium-length film. Prerequisite: MP 180.

282 Intermediate Film Production (3 credit hours)
Production of medium length film projects under faculty supervision. Review of lip-sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium-length film. Prerequisite: MP 281.
283 Intermediate Film Production (3 credit hours)
Production of medium length film projects under faculty supervision. Review of lip-sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium-length film. Prerequisite: MP 282.

331 Studies in Film History (3 credit hours)
Provides intensive study of selected areas of film history. Titles vary. (Previously listed as TH 331. credit hours)

332 Studies in Film Authorship (3 credit hours)
Provides an intensive study of the work of one or more film directors or other creative personnel, such as screenwriters or performers. Titles vary. Prerequisite: MP 131 or consent of instructor.

333 Studies in Film Genre (3 credit hours)
Provides an intensive study of a film genre (e.g., the western, the musical, and the gangster film). Titles vary.

334 History and Theory of The Documentary Film (3 credit hours)
Comprehensive survey of the history of documentary film and an introduction to the theories and approaches used by documentary filmmakers throughout this century. Prerequisite: MP 131.

381 16MM Film Production (5 credit hours)
Production of 16mm film projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, business, and industrial film within the free-lance 16mm market.

382 16MM Film Production (5 credit hours)
Production of 16mm film projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, business, and industrial film within the free-lance 16mm market.

383 16MM Film Production (5 credit hours)
Production of 16mm film projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, business, and industrial film within the free-lance 16mm market. Prerequisite: MP 382.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of motion pictures. Topics vary.

435 Studies in Film Criticism (3 credit hours)
Intensive examination of a selected area of film criticism. Titles vary.

436 Studies in Film Production (3 credit hours)
Provides an intensive study of a selected area of film production. Titles vary Prerequisite: MP 180.

481 Senior Practicum in Filmmaking (3 credit hours)
Requires production of a 16mm sound film to answer print stage with optical soundtrack, and the organization of a cumulative senior screening including the practicum films. Prerequisite: MP 381.

490 Independent Screening (3 credit hours)
Independent screenings of 25 films chosen by the student to comprise an integrated program of historical/theoretical focus. Screenings to be accompanied by the reading of appropriate analytical commentary under the direction of faculty member. Prerequisite: MP 231, 232, 233 and two 300-level film theory courses.

499 Independent Study in Film History, Theory, Criticism and Practice (1 to 4 credit hours)
Independent Study in Film History. Theory, Criticism, and Practice Independent work to culminate in thesis and/or film Prerequisite: MP 332, 333.

Management Science/MS

201 Introduction to Data Analysis (3 credit hours)
Discusses statistical methods used in analysis of business problems, theory and application of frequency distributions, and measures of central tendency and variability. Introduction to probability, expectation, probability distributions, sampling, and estimation. Prerequisite: MTH 127 or high school equivalency.

202 Introduction to Statistical Inference (3 credit hours)
The study of additional statistical methods used in analysis of business problems. Statistical estimation, hypothesis testing with both single and multiple populations, the study of categorical data, analysis of variance, and regression techniques. Prerequisite: MS 201 and MTH 129, or equivalent.

203 Applied Statistical Methods for Business (3 credit hours)
Use of statistical and analytical techniques to aid in problem solving. Decision theory, forecasting, queuing theory, simulation and linear programming techniques. Prerequisite: MS 202, MTH 228.

204 Introduction to Business Statistics (4 credit hours)
Discusses statistical methods used in analysis of business problems, including theory and application of frequency distributions, measures of central tendency and variability, probability distributions, expectation, sampling and estimation, and one-sample hypothesis testing. Prerequisite: MTH 127 and CS 205.


**205 Quantitative Business Modeling (4 credit hours)**
A course designed to introduce students to the study of additional probabilistic models and also to some basic deterministic models. Prerequisite: MS 204, MTH 128 or their equivalents.

**307 Introduction to Operations Management (4 credit hours)**
Discusses the major management decision areas and production of goods and services. Major topics include strategic issues, forecasting, inventory management, planning and control systems, quality management, and project management. Prerequisite: MS 205 and MTH 228.

**320 Basics of Supply Chain Management (4 credit hours)**
Explores the fundamentals of supply chain management, including the strategic role of the supply chain, key drivers of supply chain performance, and analytical tools and techniques for supply chain analysis. Cases and in-class exercises. Prerequisite: MS 307. Prerequisite: MS 307.

**322 Systems Simulation for Operations (4 credit hours)**
Introduction to simulation techniques as applied to operations management. Topics include basic concepts, applications, and technical problems associated with use of systems simulation. Design, operation and output analysis of computer models emphasized. Prerequisites: MS 205 and MS 307. Prerequisite: MS 205, MS 307.

**324 Managing the Service Sector (4 credit hours)**
Management of services is different from manufacturing. Course objectives include develop and manage service package, identify and measure service quality, prepare a blueprint for a service operation, and understand service supply chain management. Prerequisite: MS 307. Prerequisite: MS 307.

**330 Quality Management (4 credit hours)**
Quality is defined, and the various systems that are used for achieving quality products and services are evaluated. Philosophies of quality, quantitative tools for implementation, ISO 9000 and the Baldridge Award are discussed. Prerequisite: MS 307. Prerequisite: MS 307.

**333 Operations Planning (4 credit hours)**
Explores fundamentals of forecasting and order quantity calculation for both independent and dependent demand, and then the usage of that information to schedule production of those items in typical manufacturing applications. Prerequisite: MS 307. Prerequisite: MS 307.

**334 Global Supply Chain Management (4 credit hours)**
The objective of this course is to provide students with an understanding of how managers can develop and use the operations function of a business in order to enhance global competition. Prerequisite: MS 307.

**460 Strategic Management of Operations (4 credit hours)**
A strategic perspective for operations is developed, providing a linkage with marketing and other functions. Product profiling is introduced for testing the fit between market characteristics and the company's operations processes and infrastructure. Prerequisite: MS 307. Prerequisite: MS 307.

**477 Special Studies in Management Science (1 to 4 credit hours)**
Topics vary.

**478 Honors: Independent Study in Management Science (4 credit hours)**
Research in management science for fulfillment of the Honors program project requirement.

**480 Special Topics in Management Science (4 credit hours)**
Topics vary.

**481 Internship in Management Science (1 to 8 credit hours)**
Faculty-supervised internship in management science. Students work in a firm or public agency, participate in seminars, and submit reports for completion of the course.

**490 Senior Seminar in Management Science (3 credit hours)**
Entails the investigation of an existing quantitative business problem in a firm or organization in the Dayton metropolitan area. The seminar participants, working in groups of three or four, are expected to initiate a research proposal, perform a field research investigation, and present findings orally and in writing to management. Prerequisite: MS 435.

**495 Operations Management Project Management & Development (4 credit hours)**
Introduce concept, practice, and the importance of project management. Students work in teams to gain practical experience in analyzing, designing, implementing, evaluating, and development of operations management for businesses and non-profit organizations. Prerequisite: MS 460.

**Mathematics/MTH**

**126 Intermediate Algebra (5 credit hours)**
For students with little or no recent experience with topics beyond elementary algebra. Topics include factoring, algebraic fractions, linear equations and word problems, equations involving fractions, laws of exponents, radicals and principal roots, quadratic equations, equations involving radicals or exponents, and line graphs. Topics covered are the same as in MTH 127, but involve more practice of necessary skills. Prerequisite: MTH 102 or equivalent or at least Level 3 on WSU Math Placement Test.
127 Accelerated Intermediate Algebra (3 credit hours)
Best suited for students who have recent experience with intermediate algebra, but require a review. Topics covered are the same as in MTH 126, but the pace is much faster. Prerequisite: Math 102 or equivalent or at least Level 3 on WSU Math Placement Test.

128 College Algebra (5 credit hours)
Best suited for students having little recent experience with topics beyond intermediate algebra or whose mastery of intermediate algebra is less than perfect. Topics covered are the same as in MTH 129 but are accompanied by more practice of necessary skills. In addition, skills learned in intermediate algebra are reinforced and clarified in the context of these more advanced topics. Prerequisite: MTH 126 or MTH 127 or at least Level 4 on WSU Math Placement Test.

129 Accelerated College Algebra (3 credit hours)
Best suited for students who have previous experience with advanced algebra but require a review or who have excellent mastery of intermediate algebra. Topics include order, absolute value, linear and factored quadratic inequalities, equations and inequalities in two variables, simultaneous solutions, graphs of lines, circles, parabolas, and factored polynomials, functions, functional notation, exponential and logarithmic functions, and applications. Prerequisite: MTH 126 or MTH 127 or equivalent or at least Level 4 placement on WSU Math Placement Test.

130 Precalculus (5 credit hours)
Functions and graphs, polynomial and rational functions, conics, systems of equations, exponential and logarithmic functions, geometric series, binomial theorem. Prerequisite: MTH 126 or MTH 127 or equivalent or at least Level 4 on the Mathematics Placement Examination. Students who intend to take MTH 229 and have Math Placement Level 4 should take MTH 130 followed by MTH 131.

131 Trigonometry (3 credit hours)
Trigonometric and inverse trigonometric functions. Not for credit to students with credit for MTH 134. Prerequisite: MTH 130 or equivalent or at least Level 5 on Math Placement Test.

134 College Algebra II and Trigonometry (5 credit hours)
Combines the material of MTH 130 and 131 into a single course. Topics covered are the same as in those two courses. Not for credit to students with credit for MTH 130 and/or MTH 131. Prerequisite: MTH 128 or 129 or at least Level 5 on WSU Math Placement Test.

143 Quantitative Reasoning (4 credit hours)
Discovery of fundamental concepts and skills of quantitative reasoning by exploring real-world data from many disciplines. Data collection, organization, display, analysis, probability simulation, variation and sampling, and expected values. Students work with appropriate software and graphing calculators. Prerequisite: MTH 126 or MTH 127 or at least Level 4 on the placement test.

145 Mathematics and the Modern World (4 credit hours)
An application of mathematics to modeling real world problems that combines critical thinking and mathematical skills in a way which applies to life and career. Includes such topics financial management, quantitative and statistical reasoning, voting theory, and other topics from the behavioral and natural sciences. Prerequisite: Elementary Algebra (DEV 095) or equivalent or at least Level 3 on the Math Placement Test.

200 Accelerated Calculus I (3 credit hours)
This course and MTH 300 cover the material of MTH 229, 230, and 231 at an accelerated pace. Graded pass/unsatisfactory. Prerequisite: A previous knowledge of calculus or consent of instructor.

228 Calculus for the Management, Life and Social Sciences (5 credit hours)
Functions, rates of change, limits, derivatives of algebraic functions, applications including maxima and minima, exponential and logarithmic functions, and indefinite and definite integrals with applications. Not for credit to students with credit for MTH 229 and 230. Prerequisite: MTH 128 or 129 or equivalent or at least Level 5 on Math Placement Test.

229 Calculus I (5 credit hours)
Conic sections, functions, limits, continuity, the derivative, derivatives of algebraic and trigonometric functions, and applications of the derivative. Prerequisite: MTH 131; or Level 7 on Math Placement Test.

230 Calculus II (5 credit hours)

231 Calculus III (5 credit hours)
Applications of the definite integral, polar coordinates, and parametric equations. Infinite series, power series, and vector algebra in the plane and space. Prerequisite: MTH 230.
232 Calculus IV (5 credit hours)
Partial derivatives and definite integrals in the plane and space. Vector functions and their derivatives, motion in space, vector fields, line and surface integrals, Green's theorem, divergence theorem, and Stoke's theorem. Prerequisite: MTH 231.

233 Differential Equations (5 credit hours)
Elementary first order equations, linear equations, linear systems, series solutions, Laplace transform, and applications. Uniqueness and existence theorems for solutions. Prerequisite: MTH 231.

244 Fundamental Mathematical Concepts I (4 credit hours)
Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Covers sets, functions, prenumeration and numeration concepts, properties of whole numbers, integers, and rational numbers. Three hours lecture, one hour lab. Prerequisite: MTH 143.

245 Fundamental Mathematical Concepts II (4 credit hours)
Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Covers irrational numbers, proportions, introductory geometry, construction, congruence and similarity, and properties of real numbers. Three hours lecture, one hour lab. Prerequisite: MTH 244.

253 Elementary Matrix Algebra (3 credit hours)
Elementary course in matrix theory covering matrices, linear equations, determinants, linear transformations, eigenvalues, and eigenvectors. Prerequisite: MTH 230 or equivalent.

255 Linear Algebra (3 credit hours)
In-depth introduction to the basic concepts of linear algebra in real Euclidean n-space. Topics include Gaussian elimination, algebra of matrices, determinants, geometry of Euclidean space, subspaces, linear independence, basis, dimension and rank, and the Gram-Schmidt process. Prerequisite: MTH 231.

257 Discrete Mathematics for Computing (3 credit hours)
Discrete mathematics useful in computing. Emphasis on mathematical induction, recurrence relations, asymptotic behavior of functions, and algorithm analysis. Prerequisite: MTH 230, CS 142 or 241.

280 Introduction to Mathematical Proof (3 credit hours)
Basic notions of logic and techniques used in mathematical proof. Students gain experience in constructing proofs as they study basic notions from sets, relations, functions, algebraic structures, and the properties of real numbers. Prerequisite: MTH 231.

290 Writing in Mathematics (3 credit hours)
Explores four aspects of writing in mathematics: expository writing, explaining mathematical ideas; formal writing, making proofs intelligible; writing as a learning tool, clarifying ideas by putting them on paper; and informal writing. Prerequisite: MTH 280 and MTH 255.

300 Accelerated Calculus II (3 credit hours)
Continuation of MTH 200. Graded pass/unsatisfactory. Prerequisite: MTH 200.

303 Differential Equations II (3 credit hours)
Examples of systems of differential equations, complex and repeated eigenvalues, solutions of systems, matrix exponential, qualitative behavior of first order equations, planar systems and stability, almost linear systems, and energy method. Prerequisite: MTH 233, MTH 255.

306 Mathematical Modeling (3 credit hours)
Structure and properties of mathematical models. Size effects, dimensional analysis, graphical methods, comparative statistics, stability, optimization techniques, probabilistic models, and Monte Carlo simulation. Prerequisite: MTH 233 and MTH 253 or MTH 355, or permission of instructor.

310 Issues in Science (3 credit hours)
A writing-intensive course dealing with issues in science.

316 Numerical Methods for Digital Computers (4 credit hours)
Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours lab. Prerequisite: MTH 231, either MTH 253 or 255, and one of CS 142, CS 220, CS 241, EGR 153.

317 Numerical Methods for Digital Computers (4 credit hours)
Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours lab. Prerequisite: MTH 233, MTH 316, and either MTH 253 or MTH 355.

332 Complex Variables (3 credit hours)
Topics discussed include power series expansion, the formula of Cauchy, residues, conformal mappings, and elementary functions in the complex domain. Prerequisite: MTH 232.

333 Partial Differential Equations and Boundary Value Problems (3 credit hours)
Partial differential equations, boundary value problems, and eigenfunctions. Fourier series, applications. Prerequisite: MTH 232 and MTH 233.
343 Algebra and FUNCTIONS for Middle School Teachers (4 credit hours)
Polynomial, exponential, logarithmic, rational, and trigonometric functions will be studied from a perspective appropriate for a teacher. Computing, programming, graphing, and data collection technology will be used. Prerequisite: Level 5 or better on Math Placement Test or MTH 128 or MTH 129 or equivalent.

344 Problem Solving for Middle School Teachers (4 credit hours)
A framework and useful heuristics for solving problems. Visual thinking and reasoning, metacognition, problem-solving logs and summaries, problem solving individually and in groups. Prerequisite: MTH 244, MTH 343.

345 Geometry for Middle School Teachers (4 credit hours)
Axioms, finite geometries, nonmetric and metric lengths, angles, area, volume, polygonal figures, and elementary curves. Prerequisite: MTH 244, MTH 343.

348 Concepts in Calculus for Middle School Teachers (4 credit hours)
An exploration and study designed to provide a conceptual understanding of differentiation and integration with examples of their diverse applications and their connections to algebra and geometry. Prerequisite: MTH 244, MTH 343.

355 Advanced Linear Algebra (3 credit hours)
Covers vector spaces and subspaces, basis and dimension, linear transformations and matrices, eigenvalues and eigenvectors, and inner product spaces. Prerequisite: MTH 244, MTH 343.

381 Elementary Number Theory (3 credit hours)
Divisibility properties of integers, prime numbers, congruences, the Chinese remainder theorem, quadratic reciprocity law, Mobius inversion formula, Euler f-function, other number-theoretic functions.

399 Selected Topics (1 to 5 credit hours)
Selected topics in mathematics. May be taken for letter grade or pass/unsatisfactory. Prerequisite: permission of instructor.

407 Optimization Techniques (3 credit hours)
Concepts of minima and maxima. Linear programming: simplex method, sensitivity, and quality. Transportation and assignment problems. Dynamic programming. Prerequisite: MTH 233, 253 or 255.

410 Theoretical Foundations of Computing (4 credit hours)
Turing machines, 5-recursive functions, equivalence of computing paradigms, Church-Turing thesis, undecidability, and intractability. Prerequisite: CS 466.

416 Matrix Computations (4 credit hours)
Survey of numerical methods in linear algebra, emphasizing practice with high-level computer tools. Topics include Gaussian elimination, LU decomposition, numerical eigenvalue problems, QR factorization, least squares, singular value decompositions, and iterative methods. Prerequisite: MTH 253 or 355; and CS 142 or 241.

419 Cryptography and Data Security (3 credit hours)
Introduction to the mathematical principles of data security. Various developments in cryptography will be discussed, including public-key encryption, digital signatures, the data encryption standard (DES), and key safeguarding schemes. Prerequisite: MTH 253 or 255.

423 Advanced Logic (3 to 4 credit hours)
Listed jointly with Department of Philosophy: see PHL 423. Treats logic as an object rather than a subject. Contains extensions to higher order logic, but mainly emphasizes the use of logic and the limitations of logical systems. Prerequisite: PHL 123 and 323, or one of these together with one math course beyond calculus, or consent of instructor.

431 Real Variables I (3 credit hours)
Functions, sequences, limits, continuity, differentiability, integration, and mean-value theorems. Prerequisite: MTH 280.

432 Real Variables II (3 credit hours)
Infinite series, uniform convergence. Taylor series, improper integrals, special functions, and Fourier series. Prerequisite: MTH 431.

433 Real Variables III (3 credit hours)
Theory of functions of several variables, vector-valued functions. Prerequisite: MTH 432.

434 Introduction to Complex Analysis (5 credit hours)
Complex arithmetic, differentiation (analytic functions, the Cauchy-Riemann equations), elementary functions and their mapping properties, integration (Cauchy's theorem, Cauchy integral formula), Taylor and Laurent series, poles, residues, and the residue theorem. Prerequisite: MTH 232 is required. (MTH 431 is recommended).

440 History of Mathematics (3 credit hours)
Development of calculus from antiquity through Newton, Leibnitz, development of classical analysis; the rise of abstraction; set theory, algebra, and topology; modern analysis. Prerequisite: MTH 231, 451, and 471.

446 Mathematical Modeling for Middle School Teachers (4 credit hours)
An introduction to mathematical modeling by modeling real world problems individually and in groups. Focuses on working with the steps involved in modeling a real-life situation and understanding how modeling differs from simple problem solving. Prerequisite: MTH 344.
450 Discrete Algebraic Structures (3 credit hours)
Introduction to several abstract algebraic structures and their models that are used in computer science. Examples include semigroups and finite-state machines, and groups and codes. Prerequisite: MTH 253 or 255 or equivalent.

451 Introduction to Modern Algebra I (3 credit hours)
Introduction to abstract algebraic structures including groups, rings, integral domains, and fields. Prerequisite: MTH 280 or MTH 450.

452 Introduction to Modern Algebra II (3 credit hours)
Introduction to abstract algebraic structures including groups, rings, integral domains, and fields. Prerequisite: MTH 451.

456 Coding Theory (3 credit hours)
Examines the essentials of error-correcting codes and the study of methods for efficient and accurate transfer of information. Topics to be covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes. Prerequisite: MTH 253 or MTH 355 (or equivalent).

457 Combinatorics (3 credit hours)
Topics are permutations, combinatorics, generating functions, recurrence relations, and Polya’s theory of counting. Prerequisite: MTH 231 and Junior standing.

458 Applied Graph Theory (3 credit hours)
Introduction to methods, results, and algorithms of graph theory. Emphasis on graphs as mathematical models applicable to organizational and industrial situations. Prerequisite: MTH 231 and either CS 142 or 241.

459 Combinatorial Tools for Computer Science (3 credit hours)
Introduction to some of the mathematical tools needed for an understanding of computer programming. The topics covered are summations, elementary number theory, combinatorial identities, generating functions, and asymptotics. Prerequisite: MTH 280; MTH 457 recommended.

471 Geometry (3 credit hours)
Topics in foundations of Euclidean geometry, introduction to non-Euclidean and other geometries. Prerequisite: MTH 280.

472 Projective Geometry (3 credit hours)
Projective and affine planes and spaces, change of coordinates, projective transformations, and conics. Prerequisite: MTH 231.

475 Differential Geometry (4 credit hours)
Calculus on Euclidean space frame fields, calculus on a surface, shape operators, and geometry of surfaces in Euclidean three space.

476 Computer Graphics I (4 credit hours)
Contents: raster graphics algorithms, geometric primitives and their attributes, clipping, antialiasing, geometric transformations, structures and hierarchical modes, input devices, and interactive techniques. Students develop interrelated programs to design, manipulate, and view a three-dimensional hierarchical model. Prerequisite: MTH 253 or 255, CS 400.

477 Computer Graphics II (4 credit hours)
Continuation of MTH 476. Covers surface rendering, hidden line and surface removal, illumination models, texture mapping, color models, geometric modeling, and graphical interface design. Students develop programs and a final project. Prerequisite: MTH 476 or CEG 476.

480 Methods of Applied Mathematics: Geometric Methods (3 credit hours)
Basic mathematical tools for the description of physical systems in three-dimensional space: vector and tensor analysis, matrices, and curvilinear coordinate systems. Prerequisite: MTH 232, 253 or 255.

481 Methods of Applied Mathematics: Differential Equations (3 credit hours)
Solution methods for ordinary differential equations commonly arising in physics and engineering. Systems of equations, linear spaces, eigenvalue problems, Sturm-Liouville theory, and orthogonal functions. Additional topics selected from Bessel and Legendre functions, stability theory, Liapunov’s methods, autonomous systems and the Poincare phase plane, and existence and uniqueness theorems. Prerequisite: MTH 233, MTH 355 or 480.

482 Methods of Applied Mathematics: Integral Methods (3 credit hours)
Use of integral transforms in the solution of differential and integral equations. Fourier series, Fourier and Laplace transforms and inverses, integral equations, and Green’s functions. Prerequisite: MTH 332 or 434; MTH 355 or 480.

488 Independent Reading (1 to 5 credit hours)
Topics vary.

492 Undergraduate Mathematics Seminar (3 credit hours)
Detailed study of a single mathematics topic chosen by the student with the approval of the instructor. The student will present the results of the study in an expository paper submitted to the instructor, and also present them to a broader audience. Prerequisite: MTH 432 or 452 or senior standing and department permission.

499 Selected Topics (1 to 5 credit hours)
Selected topics in mathematics.
Music: Applied Music/MUA

110 Applied Music (1 credit hour)
Applied music instruction is available to the general student, regardless of major. Section number designates applied area. Audition required. Half-hour lesson only. Enrollment limited. Department permission required.

111 Applied Music (1 credit hour)
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

112 Applied Music (1 credit hour)
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

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121 Applied Music (2 credit hours)
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Music/MUS

101 Theory of Music (3 credit hours)
Theoretical study of music including written exercises, form and analysis, and harmony.

102 Theory of Music (3 credit hours)
Theoretical study of music including written exercises, form and analysis, and harmony. Prerequisite: MUS 101, 151.

103 Theory of Music (3 credit hours)
Theoretical study of music including written exercises, form and analysis, and harmony. Prerequisite: MUS 102, 152.

111 Vocal Technique and Diction (1 credit hour)
Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy.

112 Vocal Technique and Diction (1 credit hour)
Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy. Prerequisite: MUS 111.

113 Vocal Technique and Diction (1 credit hour)
Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy. Prerequisite: MUS 112.

114 Fundamentals of Music Theory (3 credit hours)
Study of basic materials, notation, and reading of music for students with little or no previous music training.
117 Music Listening IV: Jazz (3 credit hours)  
Historical survey of jazz and related styles from the late 19th century to the present.

118 Popular Musical Theatre (3 credit hours)  
Survey of popular musical theatre from its origin in classic comic opera to the present. Emphasis on the Broadway musical since the 1940s.

121 Foundations of Analytical Listening (2 credit hours)  
Aural analysis taught via musical examples from various periods and cultures including non-Western and popular music.

122 Survey of Musical Styles (2 credit hours)  
Principle types of Western music from ca. A.D. 500 to the present. Aural analysis: forms and styles. Prerequisite: MUS 121.

125 Beginning Piano I (1 credit hour)  
For nonmusic majors. Class instruction in basic keyboard skills, rudiments of music theory, and beginning sight reading.

126 Beginning Piano II (1 credit hour)  
Continuation of MUS 125. Development of additional keyboard skills. Study of melody, harmony, and rhythm. Prerequisite: MUS 125.

127 Beginning Piano III (1 credit hour)  
Continuation of MUS 126. Performance of simple music and application of knowledge of musical elements through performance.

131 Beginning Guitar Class I (1 credit hour)  
Focuses on the development of good playing habits through melody and chord playing. Tuning, care of the guitar, and tablature reading covered. Various guitar styles demonstrated. Students provide own instruments. Electric guitars not suitable.

132 Beginning Guitar Class II (1 credit hour)  
Based on technique covered in MUS 131, this class concentrates on note-reading, more chords, and accompaniment styles.

133 Beginning Guitar Class III (1 credit hour)  
Based on technique covered in MUS 132, this class concentrates on note-reading, more chords, and accompaniment styles, and some aspects of theory. Prerequisite: MUS 132 or permission of instructor.

141 Singing in Musical Theatre (1 credit hour)  
Basic music and interpretation of notation. Vocal training with emphasis on musical theatre. For theatre majors only.

142 Singing in Musical Theatre (1 credit hour)  
Basic music and interpretation of notation. Vocal training with emphasis on musical theatre. For theatre majors only.

143 Singing in Musical Theatre (1 credit hour)  
Basic music and interpretation of notation. Vocal training with emphasis on musical theatre. For theatre majors only.

144 University Brass Choir (1 credit hour)  
A performance-oriented group which provides the student with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required.

147 University Flute Choir (1 credit hour)  
Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

148 University Clarinet Choir (1 credit hour)  
Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

149 Chamber Players (1 credit hour)  
Exploration of performance repertoire composed expressly for small wind ensemble. Works by such composers as Mozart, Strauss, Dvorak, Beethoven, and Stravinsky. Consent of conductor and student's applied instructor required.

155 Keyboard Musicianship (1 credit hour)  
Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.

156 Keyboard Musicianship (1 credit hour)  
Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.

157 Keyboard Musicianship (1 credit hour)  
Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces. Prerequisite: MUS 156, MUS 102. Corequisite: MUS 103.

166 Concert Band (1 credit hour)  
Performs band music of all styles. Open to all students without audition.

167 Pep Band (1 credit hour)  
Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.

168 Jazz Band (1 credit hour)  
A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.

169 Wind Symphony (1 credit hour)  
Performs original compositions and transcriptions for band and wind ensembles. Audition required.
177 Chamber Orchestra (1 credit hour)
Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium.

190 University Chorus (1 credit hour)
Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.

192 Vocal Jazz Ensemble (1 credit hour)
Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.

193 University Men’s Chorale (1 credit hour)
Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

194 University Women’s Chorale (1 credit hour)
Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

195 Chamber Singers (1 credit hour)
Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.

197 Paul Laurence Dunbar Chorale (1 credit hour)
A choral ensemble for students who desire to explore the musical style of gospel music and its roots and various forms. Includes performances of a body of literature associated with the African American church to the university and surrounding communities.

201 Music Theory (3 credit hours)
Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level. Prerequisite: MUS 103, 153.

202 Music Theory (3 credit hours)
Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level. Prerequisite: MUS 201, 251.

203 Music Theory (3 credit hours)
Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level. Prerequisite: MUS 202, 252.

205 Chamber Music (1 credit hour)
Audition required.

214 Music in Western Culture (4 credit hours)
Introduction to the music of Western culture from the Middle Ages to the present. Emphasis on listening skills; elements of music; major styles, genres, and composers; and cultural context.

215 String Methods I (1 credit hour)
The study of materials, equipment, and class instruction in basic playing and teaching string instruments.

216 String Methods II (1 credit hour)
The study of materials, equipment, and class instruction in basic playing and teaching string instruments. Prerequisite: MUS 215.

217 String Instruments (1 credit hour)
Class instruction. Materials and pedagogy.

223 Methods in Music Marching Bands (3 credit hours)
Materials, techniques, and administration of marching bands in the public school.

224 High Brass Methods (1 credit hour)
Class instruction, materials, and pedagogy for trumpet and horn. Instrument music education majors only.

225 Low Brass Methods (1 credit hour)
Class instruction, materials and pedagogy for trombone and tuba. Instrumental music education majors only. Prerequisite: MUS 224.

226 Elementary Brass Methods (1 credit hour)
General survey of brass instruments. Vocal and string majors only.

227 Woodwind Methods I (1 credit hour)
The study of materials, equipment, and class instruction in playing and teaching woodwind instruments in public school.

228 Woodwind Methods II (1 credit hour)
The study of materials, equipment, and class instruction in playing and teaching woodwind instruments in the public school. Prerequisite: MUS 227.

229 Elementary Woodwinds (1 credit hour)
General survey of woodwind instruments for vocal and string methods. String or vocal majors only.

231 Percussion Instruments (1 credit hour)
Class instruction. Materials and pedagogy.

245 Collegium Musicum (1 credit hour)
Collegium Musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music, that was written before 1750. One period (Medieval, Renaissance, Baroque) will be emphasized each quarter. Prerequisite: 121, 151 or audition.

251 Sight Singing and Dictation (1 credit hour)
Continuation of MUS 151. Prerequisite: MUS 103, 153.

252 Sight Singing and Dictation (1 credit hour)
Continuation of MUS 152. Prerequisite: MUS 201, 251.

253 Sight Singing and Dictation (1 credit hour)
Continuation of MUS 153. Prerequisite: MUS 202, 252.

255 Keyboard Musicianship (1 credit hour)
Class instruction in functional keyboard skills. Continuation of MUS 157.

256 Keyboard Musicianship (1 credit hour)
Class instruction in functional keyboard skills. Continuation of MUS 157.
257 Keyboard Musicianship (1 credit hour)
Class instruction in functional keyboard skills.

261 Pronunciation of Foreign Languages (2 credit hours)
For students of singing. Application of the International Phonetic Alphabet to German and French. Includes intensive readings of song lyrics.

262 Pronunciation of Foreign Languages (2 credit hours)
For students of singing. Application of the International Phonetic Alphabet to German and French. Includes intensive readings of song lyrics.

281 Jazz Improvisation I (1 credit hour)
Basic fundamental scales and principles associated with the jazz tradition. Includes the study and performance of the blues, minor pentatonic, minor seventh, and major scales.

282 Jazz Improvisation II (1 credit hour)
Study and performance of the cycle of fifths through technical jazz exercises designed to complement the highly syncopated rhythms and nondiatonic melodies found in the music of the Bebop era.

283 Jazz Improvisation III (1 credit hour)
Introduces popular jazz riffs that have become standard practice among jazz artists of all periods and focuses on grace notes, diminished scales, diminished whole-tone scales, and transcribed jazz solos.

284 Advanced Jazz Improvisation (1 credit hour)
Introduces both the technical and psychological artistic approach to sound production relating to jazz music and examines important recordings from various periods of jazz history.

290 African American Music: America and Beyond (4 credit hours)
Survey of the development of African American music from a historical, sociological, and cultural perspective. Included will be an analysis of the genres, influences, and impact on American and world culture.

301 Counterpoint (3 credit hours)

311 History of Music (3 credit hours)
From ancient and medieval periods through the 20th century. Prerequisite: MUS 103, MUS 121, MUS 153.

312 History of Music (3 credit hours)
From ancient and medieval periods through the 20th century. Prerequisite: MUS 103, 122, 153.

313 History of Music (3 credit hours)
From ancient and medieval periods through the 20th century. Prerequisite: MUS 103, 122, 153.

314 Introduction to Research in Music (3 credit hours)
Methods of scholarly investigation in music history; theory, and education; music bibliography; emphasis on individual projects and reports. Prerequisite: MUS 122.

316 Piano Pedagogy I (3 credit hours)
History of piano pedagogy. Overview of the teaching and learning process. Study of methods and materials for use with students of various age groups during their first years of piano studies. Prerequisite: MUS 122, MUS 103, and MUS 153 or permission of instructor.

317 Piano Pedagogy II (3 credit hours)
Investigation of individual and group procedures for teaching, rhythm, music reading, pianistic technique, elementary improvisation, and artistic expression. Discussion of repertoire and anthologies. Prerequisite: MUS 316 or permission of instructor.

322 Methods in Music: Choral Ensemble (3 credit hours)
Survey of choral literature appropriate for junior/senior high school ensembles with procedures for rehearsal and performance, curriculum development, and administration of choral programs. Prerequisite: MUS 203, 253.

323 Instrumental Music Education Methods I (2 credit hours)
Foundations of instrumental music education. Prerequisite: MUS 103, MUS 153.

324 Instrumental Music Education Methods II (2 credit hours)
This course will build on issues raised in MUS 323 and cover techniques, materials, and methods for the school instrumental music program. Prerequisite: MUS 323.

325 Instrumental Music Education Methods III (2 credit hours)
This course will equip prospective teachers and future instrumental conductors with practical and artistic applications, pedagogical techniques, materials, methods, and literature for school instrumental music programs. Prerequisite: MUS 323 and 324.

327 Choral Methods I (2 credit hours)
Materials and methods for choral music education students with primary focus on elementary and middle school settings. Prerequisite: MUS 335.

328 Music in the Elementary School (3 credit hours)
Materials, techniques, organization, and administration of vocal and general music programs in the public school. Reading components and teaching strategies included. Prerequisite: MUS 203, 253.
329 **Choral Methods II** (2 credit hours)
Materials and methods for choral general music students with primary focus on junior high and high school settings. Prerequisite: MUS 327.

330 **Choral Methods III** (2 credit hours)
Materials and methods for choral general music students with primary focus on high school settings. Prerequisite: MUS 329.

331 **Music Literature: Medieval** (3 credit hours)
Historical study of music of the fifth century to ca. 1450. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

332 **Music Literature: Renaissance** (3 credit hours)
Historical study of music from ca. 1450 to 1600. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

333 **Music Literature: Baroque** (3 credit hours)
Historical study of music from 1600 to 1750. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

335 **Basic Conducting** (2 credit hours)
Basic baton technique and score reading for choral and instrumental conducting. Prerequisite: MUS 102, 152.

336 **Instrumental Conducting I** (2 credit hours)
This course is designed to enable the student to develop basic knowledge and skills relating to conducting instrumental ensembles in a variety of settings. Combination of lecture, seminar, and lab. Prerequisite: MUS 335.

337 **Instrumental Conducting II** (2 credit hours)
This course is designed to enable the student to develop intermediate level knowledge and skills relating to conducting instrumental ensembles in a variety of settings. Combination of lecture, seminar, and lab. Prerequisite: MUS 335 and MUS 336.

338 **Instrumental Conducting III** (2 credit hours)
Continuation of MUS 336. Emphasis on rehearsal techniques, comprehensive musicianship, and performance practices. For music majors only. Completion of instrumental laboratory ensemble required. Prerequisite: MUS 336.

339 **Choral Conducting I** (2 credit hours)
This course is designed to enable the student to develop basic knowledge and skills relating to conducting choral ensembles in a variety of levels and settings. Combination of lecture, seminar, and lab. Prerequisite: MUS 335.

340 **Choral Conducting II** (2 credit hours)
This course is designed to enable the student to develop intermediate knowledge and skills relating to conducting choral ensembles in a variety of levels and settings. Combination of lecture, seminar, and lab. Prerequisite: MUS 339.

341 **Choral Conducting III** (2 credit hours)
This course is designed to enable the student to develop advanced knowledge and skills relating to conducting choral ensembles in a variety of levels and settings. Combination of lecture, seminar, and lab. Prerequisite: MUS 340.

342 **Form & Analysis** (3 credit hours)
Harmonic and formal analysis: motive, phrase, periods, and binary and ternary forms. Prerequisite: MUS 203, 253.

343 **Orchestration** (2 credit hours)
Tone quality and ranges of orchestral instruments; voice qualities and ranges of choral ensembles; and written assignments in each area. Prerequisite: MUS 203.

344 **University Brass Choir** (1 credit hour)
A performance-oriented group which provides students with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required.

347 **University Flute Choir** (1 credit hour)
Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

348 **University Clarinet Choir** (1 credit hour)
Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

349 **Chamber Players** (1 credit hour)
Exploration of performance repertoire composed expressly for small wind ensemble. Works by such composers as Mozart, Strauss, Dvorak, Beethoven, and Stravinsky. Consent of conductor and student's applied instructor required.

355 **Keyboard Musicianship** (1 credit hour)
This course provides vocal music education majors with functional and technical keyboard skills needed for successful choral music classroom instruction. Prerequisite: MUS 257 (Keyboard Musicianship).

356 **Keyboard Musicianship** (1 credit hour)
This course provides vocal music education majors with functional and technical keyboard skills needed for successful choral music classroom instruction. Prerequisite: MUS 355 (keyboard musicianship).

357 **Keyboard Musicianship** (1 credit hour)
This course provides vocal music education majors with functional and technical keyboard skills needed for successful choral music classroom instruction. Prerequisite: MUS 356 (keyboard musicianship).
365 Methods and Materials for Teaching General Music in Grades K–6 (4 credit hours)
Materials and methods for teaching general music in grades K–6. Laboratory session required in addition to regular class meeting times for the purpose of developing skills in sight singing and in the use of traditional classroom instruments.

366 Concert Band (1 credit hour)
Performs band music of all styles. Open to all students without audition.

367 Pep Band (1 credit hour)
Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.

368 Jazz Band (1 credit hour)
A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.

369 Wind Symphony (1 credit hour)
Performs original compositions and transcriptions for band and wind ensembles. Audition required.

370 University/Community Orchestra (1 credit hour)
Performs orchestral music of all styles and periods.

371 Composition (3 credit hours)
Creative writing in smaller forms for a variety of media. Includes the exploration of various composition styles. Prerequisite: MUS 203.

372 Composition (3 credit hours)
Creative writing in smaller forms for a variety of media. Prerequisite: MUS 371.

373 Composition (3 credit hours)
Creative writing in smaller forms for a variety of media. Includes the exploration of various composition styles. Prerequisite: MUS 372.

374 Chamber Orchestra (1 credit hour)
Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium. Audition required.

375 Electronic Music Composition (3 credit hours)
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of synthesis techniques. Prerequisite: MUS 373.

376 Electronic Music Composition (3 credit hours)
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of tape and synthesizer techniques. Prerequisite: MUS 373.

377 Electronic Music Composition (3 credit hours)
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of tape and synthesizer techniques. Prerequisite: MUS 373.

378 University Chorus (1 credit hour)
Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.

379 Vocal Jazz Ensemble (1 credit hour)
Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.

380 University Men's Chorus (1 credit hour)
Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

381 University Women's Chorus (1 credit hour)
Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.

382 Chamber Singers (1 credit hour)
Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from a wide range of historical and compositional styles. Audition required.

383 Wind Ensemble (1 credit hour)
A choral ensemble exploring the musical style of African American church. Audition required.

384 Opera Production and Coaching (3 credit hours)
For advanced singers in the production of opera; culminates in public performance. Individual coaching for major role assignment. Study and involvement in technical areas of production: set design, building, properties, and costumes. May include participation in Dayton Opera productions.

385 Vocal Ensemble (1 credit hour)
A choral ensemble exploring the musical style of African American church. Audition required.

386 Conducting (1 credit hour)
Instructor approved. Audition required.

387 Conducting (1 credit hour)
Instructor approved. Audition required.

388 Conducting (1 credit hour)
Instructor approved. Audition required.

389 Conducting (1 credit hour)
Instructor approved. Audition required.

390 Opera Production and Coaching (3 credit hours)
For advanced singers in the production of opera; culminates in public performance. Individual coaching for major role assignment. Study and involvement in technical areas of production: set design, building, properties, and costumes. May include participation in Dayton Opera productions.

391 Opera Production and Coaching (3 credit hours)
For advanced singers in the production of opera; culminates in public performance. Individual coaching for major role assignment. Study and involvement in technical areas of production: set design, building, properties, and costumes. May include participation in Dayton Opera productions.

392 Conducting (1 credit hour)
Instructor approved. Audition required.

393 Conducting (1 credit hour)
Instructor approved. Audition required.

394 Conducting (1 credit hour)
Instructor approved. Audition required.
424 History of Music Theory (3 credit hours)
Survey of music theory from Jean Philippe Rameau to the present. Traces lines of thought that have had significant influence on musical study in the 20th century. Prerequisite: MUS 203, 313.

425 Senior Theory Seminar (3 credit hours)
In depth study of selected topics in Music Theory. Students will be involved in individual faculty-directed projects which culminate in a class presentation and a research paper.

433 Canon and Fugue (3 credit hours)
Selection of and research in some of the problems in vocal and instrumental teaching and supervision. Prerequisite: MUS 303, 432.

435 Studies in Music Literature (3 credit hours)
Courses in various aspects of the literature of music, such as Symphonic Literature or Chamber Literature, or focusing on a composer or nationality. Topics vary. Prerequisite: MUS 203, 253, 313.

441 Pedagogy (1 credit hour)

442 Pedagogy (1 credit hour)
Fundamental problems involved in studio teaching. Critical analysis of teaching materials. Observation and practice in private teaching required. Prerequisite: MUS 441.

443 Vocal Pedagogy I (2 credit hours)
This course is designed to make students familiar with physiological and psychological aspects of voice so they will better understand their own instruments and will be better equipped to teach others. Prerequisite: MUS 243 or MUA 223.

444 Vocal Pedagogy II (2 credit hours)
A continuation of the physiological and psychological aspects of vocal student presented in MUS 443. Prerequisite: MUS 443.

451 Piano Literature (3 credit hours)
Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century. Prerequisite: Junior or senior standing as piano major or concentration, or consent of instructor.

452 Piano Literature (3 credit hours)
Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century. Prerequisite: Junior or senior standing as piano major or concentration, or consent of instructor.

453 Piano Literature (3 credit hours)
Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century. Prerequisite: Junior or senior standing as piano major or concentration, or consent of instructor.

455 Vocal Literature (3 credit hours)
Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 313.

456 Vocal Literature (3 credit hours)
Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 455.

457 Vocal Literature (3 credit hours)
Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 456.

461 American Music (3 credit hours)
Music in the United States from 1620 to the present, with emphasis on national idioms and native composition. Prerequisite: MUS 121, 122; 201, 202, 203.

465 Computer Applications in Music (3 credit hours)
Study of computer technology and music software applications. Emphasis is placed upon using MIDI for electronic score notation, sequencing, and basic courseware design. Two hours lecture, two hours lab. Prerequisite: MUS 203, MUS 253.

471 Advanced Composition (3 credit hours)
Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style. Prerequisite: MUS 201, 301.

472 Advanced Composition (3 credit hours)
Creative writing encompassing a variety of media and forms. Study will include style exploration and the development of a personal style. Prerequisite: MUS 471.

473 Advanced Composition (3 credit hours)
Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style. Prerequisite: MUS 203, 303, 472.

480 Workshops in Music (1 to 4 credit hours)
Study of selected special topics or problems in music, or special areas of music teaching. Titles vary.

481 Advanced Studies in Special Subjects (1 to 6 credit hours)
Directed research. May be taken for a letter grade or pass/unsatisfactory.

Nursing/NUR

114 Nursing Elective (2 to 3 credit hours)
Special topics. Prerequisite: NUR 111.
209 Introduction to Professional Nursing Practice (4 credit hours)
Explains history of nursing, its response to society, and evolution of contemporary nursing. Emphasizes past, present, and future roles based on selected concepts, models, and theories within the health care systems.

212 Nursing for Health and Wellness Lifestyle (4 credit hours)
Emphasizes concepts, models, theories, and methodologies consistent with a philosophy of health and wellness in the context of human diversity. Incorporates self-directed activities to promote maximum health in self and others.

213 Field Experience in Health and Wellness (3 credit hours)
Explores the impact of cultural, ethical, legal, political, and socioeconomic issues relating to wellness across the lifespan. Promotes the RN student’s philosophy of well-being through self-directed field experiences. Prerequisite: NUR 308, NUR 212.

214 Human Diversity in Health Care (2 credit hours)
Examination of human diversity in relation to health/well-being and health care delivery systems. Both global and future orientations of diversity will be considered. Prerequisite: NUR 209, pre/corequisite.

217 Health Assessment Across the Lifespan (6 credit hours)
Focuses on skills and related concepts basic to clinical practice. Integrates health assessment skills into nursing care and development of nursing diagnosis. Communication for documentation of data base is stressed. Prerequisite: NUR 212, 214, ANT 202, P&B 301, NUR 210 pre/corequisite.

218 Introduction to Clinical Nursing (6 credit hours)
Focuses on skills and related concepts basic to clinical practice. Integrates health assessment skills into nursing care and development of nursing diagnosis. Communication for documentation of data base is stressed. Prerequisite: NUR 217, P&B 302, BMB 250, NUR 306 pre/corequisite.

304 Foundations in Nursing Research (1 to 3 credit hours)
Introduces the basic elements of the research process. Emphasizes the critique and application of research findings to professional nursing practice. Prerequisite: NUR 218, STT 160 or equivalent. Prerequisite: NUR 218, STT 160 or equivalent course.

305 Legal and Ethical Foundations for Nursing Practice (3 credit hours)
Examines the theoretical basis of ethical decision making and legal elements of professional nursing practice. Prepares the student for clinical application experience in succeeding courses.

306 Concepts of Altered Health States (3 credit hours)
Focuses on the relationship of normal body functioning and the physiological changes that occur as a result of illness including the body’s compensatory mechanisms. Emphasis is placed on alterations in body function and system/organ failure. Prerequisite: ANT 202, P&B 302 or RN status, CHM 102 or equivalent.

307 Foundations of Family and Group Nursing (4 credit hours)
Foundational course in family development from the perspective of family nursing science. Explores impact of environmental influences on family health. Theoretical frameworks guiding the culturally sensitive study and practice of group work will be examined. Prerequisite: NUR 218 pre/corequisite.

308 Theories & Concepts of Professional Nursing (5 credit hours)
Introductory course oriented toward the continued socialization of the professional nurse with synthesis of concepts, theories, processes, and models to facilitate transition into professional nursing. For registered nurses only.

312 Nursing Process: Human Existence and Health, II (10 credit hours)
Clinical nursing courses. Focus on the nursing process and the human ability to adapt to one’s environment in relation to an optimum state of health. Learning experiences include a variety of settings within and outside the health-care system. Prerequisite: NUR 311.

313 Nursing Process: Human Existence and Health, III (10 credit hours)
Clinical nursing courses. Focus on the nursing process and the human ability to adapt to one’s environment in relation to an optimum state of health. Learning experiences include a variety of settings within and outside the health-care system. Prerequisite: NUR 312.

317 Selected Topics (2 to 4 credit hours)
Topics vary.

321 Adult Health & Illness (7 credit hours)
A clinical course which focuses on adults across the lifespan with altered health states. Emphasis is on providing secondary preventive care in a variety of settings. Prerequisite: NUR 218, PHR 340, NUR 307, PSY 341 pre/coreqs.

322 Nursing Care of Childbearing Families (7 credit hours)
A clinical course focusing on the understanding and application of selected concepts related to the childbearing family in the maternity cycle. Prerequisite: NUR 321, 304, NUR 305 pre/corequisite.
323 Nursing Care of Childrearing Families  
(7 credit hours)  
A clinical course focusing on children and adolescents in families with a variety of health states in various health care settings. Prerequisite: NUR 321, 304. NUR 305 pre/corequisite.

324 Nursing Care of Aging/Aged Families  
(7 credit hours)  
Examines theories, trends, and research in gerontological nursing. Examines the aging self, holistic health and independent function, hospitalization, and nursing management of illness in the aged. Explores advocacy for vulnerable aged. Prerequisite: NUR 307, 321 pre or corequisite.

405 Nursing Care of Aging/Aged Families  
(3 credit hours)  
Examines theories, trends, and research in gerontological nursing. Examines the healthy aged, holistic health and independent function, hospitalization and nursing management of illness in the aged. Explores advocacy for vulnerable aged. Prerequisite: NUR 307, 321, 323, 324.

406 Contemporary Nursing Issues and Health Policy  
(2 to 3 credit hours)  
Examines global aspects of the social, political, legal, ethical, and environmental issues influencing health care, health policy, and advancement of the nursing profession. Professional issues confronting contemporary nursing are emphasized. Prerequisite: NUR 322, 323, 324.

407 Nursing Leadership and Management in Health Care  
(2 to 3 credit hours)  
Examination of theories and strategies of leadership and management in the realm of health care. Prerequisite: NUR 322, 323, 324.

411 Nursing Process: Human Existence and Health IV  
(10 credit hours)  
Uses the nursing process with individuals and families adapting to long-term health impairments. Emphasizes the effect of political, social, and environmental forces on accessing the health care system. Related clinical experiences are provided. Prerequisite: NUR 313.

412 Nursing Process: Human Existence and Health V  
(10 credit hours)  
Uses the nursing process with individuals and families across the life span who are experiencing depleted health states with healthy and impaired communities. Learning opportunities emphasize interdependent and collaborative activities in a variety of settings. Prerequisite: NUR 411.

413 Nursing Process: Human Existence and Health VI  
(10 credit hours)  
Emphasizes leadership in caring for individuals, families, and communities with multiple health states. Learning opportunities focus on leadership in a variety of settings. Prerequisite: NUR 412.

414 Nursing Elective (1 to 4 credit hours)  
Topics vary. Prerequisite: NUR 218.

415 Independent Study (1 to 4 credit hours)  
Faculty-directed, individualized study on student-selected topics. Permission of faculty required. Prerequisite: NUR 218.

421 Nursing in Mental Health Systems  
(7 credit hours)  
Focuses on primary, secondary, and tertiary prevention of mental health problems with individuals, families, and groups. Foundations of psychosocial nursing practice are developed. Cultural, biosocial, and sociopolitical forces affecting mental health systems are analyzed. Prerequisite: NUR 322, 323, 324.

422 Nursing in Community Health Systems  
(7 credit hours)  
Clinical course integrating nursing and public health concepts/trends to assess community health needs. Primary, secondary, and tertiary prevention for health of individuals, families, groups, and communities affected by social, political, and environmental forces are stressed. Prerequisite: NUR 322, 323, 324.

423 High Acuity Nursing in Complex Health Systems  
(7 credit hours)  
A clinical course focusing on individuals experiencing life-threatening physiological crises. Integrates physiological, family, and community knowledge with concepts of high acuity care in a variety of settings. Prerequisite: NUR 322, 323, 324.

424 Synthesis Practicum in Professional Nursing  
(7 credit hours)  
Clinical course which assists students in integration of theory and practice with emphasis on complexity of design and management of nursing care for individuals, families, and groups. Provides concentrated clinical practice in selected clinical areas. Graded pass/unsatisfactory. Prerequisite: NUR 421, 422, 423.

425 Synthesis Practicum in Professional Nursing  
(3 credit hours)  
Integration of theories and concepts for transition into professional practice with the evolution of a personal philosophy of nursing. May be taken for letter grade or pass/unsatisfactory. Prerequisite: NUR 406, 407, 422.

462 Advanced Health Assessment (2 to 3 credit hours)  
Expands RNs knowledge of history taking and physical assessment as it relates to clients across the lifespan and in a variety of settings. RNs admitted to completion program only. Prerequisite: RN’s admitted to completion program.
312 Course Descriptions

498 Nursing Honors Seminar (2 credit hours)
Students discuss selected problems, issues, and special topics related to nursing that are not covered in depth during the usual curriculum. Students identify an area of interest and develop a project proposal for in-depth study. May be taken for letter grade or pass/unsatisfactory. Prerequisite: NUR 304, 321.

499 Nursing Honors Independent Study
(1 to 3 credit hours)
Provides an opportunity for development and completion of an honors project using theories and concepts from the humanities, sciences, and nursing. With guidance of a faculty member, students focus on an area of individual study. May be taken for letter grade or pass/unsatisfactory. Prerequisite: NUR 498.

Office Administration/OA

213 Advanced Typewriting (3 credit hours)
Acquired skills and knowledge in keyboarding, word processing, and document formatting are reinforced on an advanced level in the mailable production of a variety of business communication. Instruction and practice are provided in the use of office dictation/transcription equipment. Two hours lab per week required. Prerequisite: OA 212.

Physiology & Biophysics/P&B

301 Physiology of Health and Disease I
(4 credit hours)
Subject areas include homeostasis; cell, nerve, and muscle function; nervous system regulation; and cardiovascular and circulatory systems. Prerequisite: ANT 201, 202, CHM 102, MTH 126 (or placement Level 4), BIO 105 (or equivalent), or permission of instructor.

302 Human Physiology II (4 credit hours)
Subject areas include gastrointestinal and metabolic systems; respiratory and renal systems; acid-base balance; endocrinology and temperature regulation. Prerequisite: P&B 301 or consent of instructor.

442 Introduction Neurophysiology (4 credit hours)
Studies the physiological mechanisms that subserve the functions of the nervous system. Topics include the biophysics of neuronal information, intercellular communications, motor control, sensory systems, and developmental neurobiology.

469 Quantitative Aspects of Membrane Transport
(3 credit hours)
Employs a quantitative approach to the properties of solutes, water, bio-electrical phenomena, the properties of transport systems that move solutes across biological membranes, and the interactions of these solutes with membranes. Completion of a course in calculus and cell biology required. Prerequisite: Calculus, Cell Biology.

488 Independent Reading in Physiology
(1 credit hour)
Independent reading in physiological literature. A written report is required for each registered period. Optional pass/fail or letter grade.

499 Special Problems in Physiology
(1 to 4 credit hours)
Specialized program that gives seniors an opportunity to explore potential careers in physiology. Studies may vary from working with instructor on an ongoing physiological research project to analysis of data obtained from completed research project.

Philosophy/PHL

124 Social Ethics and Values (3 credit hours)
Investigation of fundamental ethical issues in our society. Includes such issues as power, law, race, war, population, ecology, violence vs. pacifism, and punishment vs. rehabilitation.

200 Critical Thinking (4 credit hours)
Introduction to fundamental reasoning skills: recognizing the differences between facts and opinions, distinguishing relevant from irrelevant information, identifying unstated assumptions, detecting bias, recognizing fallacious reasoning, and evaluating claims, definitions, and arguments.

204 Great Books: Philosophy (4 credit hours)
Introduction to selected great books in the history of philosophy. Texts are examined as an exercise in critical thinking and within their respective historical and cultural frameworks.

211 Introduction to Ethics (3 credit hours)
Survey of the important theories concerning the nature of moral value and obligation.

212 Introduction to Metaphysics (3 credit hours)
Survey of the important theories concerning the nature of reality, mind and body, and freedom and determinism.

213 Theories of Knowledge (3 credit hours)
Survey of the important theories concerning the origin, structure, methods, certainty, and validity of knowledge.

215 Inductive Logic (4 credit hours)
Introduction to the techniques of inductive and probabilistic reasoning with emphasis on the problems encountered in attempting to justify those techniques.
223 Symbolic Logic I (4 credit hours)
Introduction to the techniques of deductive logic, including truth-table analysis, the prepositional calculus, and predicate logic.

280 Philosophy of Religion: Faith and Reason (3 credit hours)
Selected cross-disciplinary issues arising from philosophy and religion: Judeo-Christian concept of God, grounds for belief and disbelief, revelation and faith, religious language, verification, immortality and resurrection, and karma and reincarnation. Issues are discussed on the basis of selected texts on faith and reason.

281 Philosophy of Religion: Contemporary Western Survey (3 credit hours)
Cross-disciplinary perspective on philosophical and religious schools of thought in the early 20th century. Absolute and personal idealism, spirit, value, positivism and naturalism, history and culture, modernism and pragmatism, religious consciousness, and phenomenology.

301 History of Philosophy (4 credit hours)
Pre-Socratic philosophers, Plato and Aristotle: Epicureanism, stoicism, skepticism, neo-Platonism, and early medieval philosophy.

302 History of Philosophy (4 credit hours)
Medieval and Renaissance philosophy: Descartes, Spinoza, and Leibniz.

303 History of Philosophy (4 credit hours)
Locke, Berkeley, Hume, Kant, Hegel, Schopenhauer, Nietzsche, logical positivism, process philosophy, and existentialism.

305 American Philosophy (4 credit hours)
Survey of American philosophy from Jonathan Edwards to John Dewey, including Transcendentalism (Emerson, Thoreau), Idealism (Royce), Pragmatism (Peirce, James), and Naturalism (Santayana, Dewey).

308 Survey of Analytical Philosophy (4 credit hours)
Major developments in last 100 years from Frege and early views of Moore and Russell through logical atomism (Russell; Wittgenstein) and logical positivism (Schlick; Carnap; Ayer), to more recent views of such figures as Wittgenstein and Quine.

311 Ethics (4 credit hours)

312 Moral Problems (4 credit hours)
Investigation and discussion of moral issues as they arise within major areas of society. Emphasis on studies in such areas as medicine, law, family, business, and politics. May be repeated.

322 Philosophical Logic (4 credit hours)
Concepts which border the philosophy of language, philosophy of mind, and ontology. Sample topics: predication and universals; naming, meaning, and necessity; negation, existence, and truth; logical and semantical paradoxes. Prerequisite: PHL 123 or consent of instructor.

323 Symbolic Logic II (4 credit hours)
Standard notations, principles of inference, formal systems, and methods of proof. Focus on first-order predicate logic. Prerequisite: PHL 223 or instructor permission.

331 Political Philosophy (4 credit hours)
Analysis of classical and contemporary writings in political philosophy; includes such topics as power, sovereignty, the state, and anarchy; equality, justice, law, and liberty; consent, representation, will of the people; political rights and responsibilities.

332 Studies in Political Philosophy (4 credit hours)
Courses of variable content dealing with topics in ancient and modern political philosophy. May be repeated.

341 Aesthetics (4 credit hours)
Study of theories concerning the nature of the work of art, aesthetic experience, the arts, and beauty.

351 Great Scientists and Recent Philosophers (4 credit hours)
Examination of philosophical importance of the theories of evolution, psychoanalysis, dialectical materialism, and space-time relativity.

371 Business Ethics (4 credit hours)
Case study and discussion of ethical issues involved in business transactions and management.

378 Ethics and Medicine (4 credit hours)
Examination of ethical issues confronting society in the areas of medicine and health care, from the perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.

382 Philosophy of Religion: Process (4 credit hours)
Realism and the revolt against idealism. Cross-disciplinary analysis of major contemporary philosophers and the implications of their thoughts for religion. Focus on Alfred North Whitehead.

383 Philosophy of Religion: Secular (4 credit hours)
Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed (sensation, morality, beauty, reason, and human relations). Examination of presuppositions of contemporary secular religion in existentialism.

394 Existentialism (4 credit hours)
Representative writers of the existentialist movement.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of philosophy. Topics vary.
314 Course Descriptions

401 Major Philosophers (4 credit hours)
Introduction to the major writings of outstanding philosophers. Involves presentation and critical examination of the philosophers’ views.

411 Advanced Ethical Theories (4 credit hours)
Critical examination of major theories of value and obligation. The best theory of value and obligation: assessment and measurement of values; the role of values in deliberation and decision-making, and in explanations of behavior.

414 Philosophy of Law (4 credit hours)
Survey of the important theories concerning the nature and justification of law, liberty, justice, responsibility, and punishment. Prerequisite: Junior or senior standing or consent of instructor.

415 Philosophical Problems (4 credit hours)
Detailed examination of one of the outstanding philosophical problems-ancient, medieval, and/or contemporary.

423 Advanced Logic (4 credit hours)
This course treats logic as an object rather than a subject. Although it contains extensions to higher order logic, its main concern will be with the use of logic and with the limitations of logical systems. Prerequisite: PHL 123 and 323, or one of these together with one mathematics course beyond calculus, or consent of instructor.

424 Mathematical Philosophy (4 credit hours)
Investigation of philosophical theories concerning the nature of mathematics, the ground of mathematical knowledge, the necessity of mathematical truth, the empirical relevance of mathematics, and the relationships between mathematical philosophy and general philosophy.

425 Philosophy of Language (4 credit hours)
An introduction to different theories of meaning, to different theories of signs, and to the problems of ambiguity, vagueness, denotation, connotation, and metaphor.

431 Classical and Medieval Political Philosophy (4 credit hours)
Critical examination of political ideas from 500 B.C. to A.D. 1500 with special attention to Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Luther, Calvin, and Machiavelli.

432 Modern Political Philosophy (4 credit hours)
Critical examination of political ideas from 1600 to 1900, with special attention to Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.

442 Philosophy and Literature (4 credit hours)
Examination of philosophical ideas found in literature, philosophical interpretations of literature, and evaluation of theories and aesthetics of literature.

443 Asian Religious Philosophy (4 credit hours)
Perennial themes in Asian cultures (such as individual, society, and cosmos; appearance and reality; time and history; and karma, freedom, and responsibility) as they have been treated in the philosophical traditions of these cultures.

465 Advanced Analysis (4 credit hours)
Investigation of certain problems and attempted solutions that have occupied major contemporary Anglo-American philosophers such as Moore, Russell, Wittgenstein, Carnap, Ryle, Austin, Strawson, and Quine.

467 Philosophy of Mind (4 credit hours)
Classical and contemporary approaches to such issues as the nature of mind, relationships of mind to body, knowledge of other minds, intentionality, perception, and agency.

471 Philosophy of Physical Science (4 credit hours)
Analysis of views concerning scientific explanation, the logic of theory testing, and the ontological status of theoretical entities; philosophical examination of the concepts of space, time, matter, and motion from classical physics to contemporary relativity.

472 Philosophy of Social Science (4 credit hours)
Analysis of views concerning concept and theory formation in the social sciences, problems in objectivity and value, justification of Verstehen, mechanism vs. teleological explanations, and reductionism.

481 Independent Reading (3 to 4 credit hours)
Faculty-directed readings in philosophic literature.

482 Independent Reading (3 to 4 credit hours)
Faculty-directed readings in philosophic literature.

495 Metaphysics (4 credit hours)
Investigation of classical and contemporary attempts to develop a theory of the nature of being and reality.

496 Epistemology (4 credit hours)
Origin, certainty, and extent of human knowledge.

Pharmacology/PHR

340 Pharmacology (3 credit hours)
Introduction to general principles of pharmacology, drug classification, and the sites and mode of action of selected drug agents. Prerequisite: CHM 102, P&B 301 and 302 or consent of instructor.

410 Introduction to Pharmacology (3 credit hours)
Covers basic principles of pharmacology, including dose-response relationships, mechanisms of drug action and resistance, the concept of drug receptors and specific binding, and biological transport and distribution of drugs. Prerequisite: BIO 112, CHM 211.
**Physics/PHY**

**105 Sounds and Colors (3 credit hours)**
Study of wave motion with an orientation toward phenomena experienced by our senses, such as musical sounds, noise, and the colors occurring in nature.

**106 Planetary Astronomy (3 credit hours)**
Introduction to astronomy with emphasis on the solar system. Topics include the earth-moon system, other planets and their satellites, space exploration, and theories for the origin of the solar system.

**107 Stars, Galaxies, and the Cosmos (3 credit hours)**
Introduction to astronomy with emphasis on the universe of stars and galaxies. Covers stellar evolution, astrophysics, and cosmology.

**111 Principles of Physics (4 credit hours)**
Introduction to fundamental phenomena, principles, and laws of physics. Prerequisite: MTH 128 or 129, or equivalent. Corequisite: PHY 101.

**112 Principles of Physics (4 credit hours)**
Introduction to fundamental phenomena, principles, and laws of physics. Prerequisite: PHY 111. Corequisite: PHY 102.

**113 Principles of Physics (4 credit hours)**
Introduction to fundamental phenomena, principles, and laws of physics. Prerequisite: PHY 112. Corequisite: PHY 103.

**121 From Apples to Spaceships (3 credit hours)**
Evolution of science and scientific world view studies by tracing development of mechanics and energy concepts from Galileo and Newton through Einstein. Application to space travel, relativity, and other topics of current interest. Prerequisite: None.

**122 Revolutions in Physics (3 credit hours)**
Microscopic structure of matter from the atomic theory applied to gases and crystals to the underlying structure. Topics include electricity, atomic glue, quantum theory and atoms, the nucleus and nuclear energy, and fundamental particles. Prerequisite: None.

**123 Suns, Moons and Planets (3 credit hours)**
Introduction to astronomy with emphasis on the solar system. Topics include the earth-moon system, other planets and their satellites, space exploration, and theories for the origin of the solar system. Prerequisite: None.

**124 Lights, Colors and Sounds (3 credit hours)**
Wave motion will be studied, with orientation toward examples of light, noise, and colors occurring in nature. Prerequisite: None.

**125 Stars, Galaxies and the Universe (3 credit hours)**
Introduction to astronomy with emphasis on the universe of stars and galaxies. Topics include stellar evolution, galaxies, origin and evolution of the universe, and astrophysics. Prerequisite: None.

**210 General Physics (Mechanics) (3 credit hours)**
Selected topics in mechanics; introduces use of calculus in interpretation of physical phenomena. Prerequisite: PHY 112, 113, MTH 230.

**211 General Physics: Electricity and Magnetism (3 credit hours)**
Selected topics in electricity and magnetism; introduces use of calculus in interpretation of physical phenomena. Prerequisite: PHY 112, 113, MTH 230.

**214 Energy Production: Alternative Solutions (3 credit hours)**
Basic energy concepts and physical processes by which natural resources are converted to useful energy. Physi-principles will be introduced as needed. Prerequisite: MTH 102 or equivalent.

**215 Introduction to Lasers (4 credit hours)**
An elementary introduction to lasers including basic theory, properties of laser light, construct of a laser, types of lasers, measurement of laser emission, laser safety, and laser applications. Prerequisite: MTH 128 or 129 and PHY 113 or CHM 122.

**240 General Physics (4 credit hours)**
Introductory survey of mechanics for science and engineering students. Introduces the use of calculus in interpreting physical phenomena. Topics include vectors, kinematics, dynamics, energy, momentum, rotation, and statics. Three hours lecture, one hour recitation. Prerequisite: MTH 229 or permission of department. Corequisite: PHY 200, MTH 230.

**241 General Physics (4 credit hours)**
Introductory survey of thermodynamics, oscillations and waves, sound, fluids and gravity. Uses calculus in interpreting physical phenomena. Prerequisite: PHY 240 and MTH 132. Corequisites: PHY 201 and MTH 133.

**242 General Physics (4 credit hours)**
Introductory survey of electricity and magnetism. Uses calculus in interpreting physical phenomena. Topics include electric field and potential, currents, DC circuits, magnetic fields, and Faraday's law. Three hours lecture, one hour recitation. Prerequisite: PHY 240, MTH 230.

**243 General Physics (2 credit hours)**
Introductory survey of optics. Topics include lenses, mirrors, optical instruments, interference, diffraction, and lasers. Laboratory work is included.

**244 General Physics (5 credit hours)**
Introductory survey of thermodynamics, oscillations and waves, sound, fluids, gravity, and optics. Calculus is required in interpreting physical phenomena. Prerequisite: PHY 240 and MTH 230; or permission of department. Corequisite: PHY 204.
245 Concepts in Physics (4.5 credit hours)
An accelerated treatment of fundamental concepts and applications of physics for elementary education majors. Practical observable topics appropriate for presentation to elementary and middle school students will be emphasized. Includes laboratory experiences, demonstrations, and projects. Prerequisite: MTH 143, ENG 102, SM 145.

246 Concepts and Applications in Physics I (4.5 credit hours)
Basic concepts and everyday applications of physics topics including motion, forces and energy. Topics are integrated with Mathematics. Prerequisite: SM 145 and MTH 143.

260 Introduction to Modern Physics (4 credit hours)
Introduces phenomenology and theoretical concepts of modern physics, such as special theory of relativity and quantum theory: atomic and molecular structure and spectra: x-rays and solid state physics: nuclear structure, reactions, and natural radioactivity; and instrumentation for nuclear physics research. One hour is devoted to demonstrations and recitations. Prerequisite: PHY 210, 211, or 244; MTH 230.

310 Issues in Science (3 credit hours)
A writing intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.

314 Intermediate Physics (2 to 3 credit hours)
Intermediate level laboratory problems. Acquaints students with a variety of experimental techniques in many areas of classical and modern physics.

315 Physics Instrumentation I (3 credit hours)
Physics laboratory experiments with an emphasis on electrical measurements and electronic instruments. Lectures on circuit theory, experiment design, and electronic instruments. 1.5 hours lecture, three hours lab. Prerequisite: Corequisite: PHY 260 or permission of instructor.

316 Physics Instrumentation II (3 credit hours)
Experiments emphasizing electronic instruments applied to areas such as mechanics, atomic physics, and nuclear physics. Lectures on applications of integrated circuits to experimentation, data analysis, and data presentation. 1.5 hours lecture, three hours lab. Prerequisite: PHY 315.

322 Applied Optics (4 credit hours)
Study of optical instruments by means of both geometrical and physical optics. Theory and application of interferometry and light detection devices. Brief introduction to lasers and holography. Three hours lecture, two hours lab. Prerequisite: MTH 253, PHY 244 or equivalent.

346 Concepts and Applications in Physics II (4.5 credit hours)
Basic concepts and applications in physics including electricity, magnetism, optics, waves, simple machines. Inquiry learning environment emphasizing science process and mathematical reasoning, problem-solving, technology and societal connections. Prerequisite: PHY 245, Middle CHILDHOOD SECTION; MTH 243 and MTH 244.

371 Analytical Mechanics (3 credit hours)
Intermediate problems in statics, kinematics, and dynamics: equilibrium of forces, rectilinear motion, curvilinear motion, central forces, constrained motion, energy and moments of inertia, and the Lagrange method. Prerequisite: PHY 210, 211, or 244, MTH 232. Corequisite: MTH 233.

372 Analytical Mechanics (3 credit hours)
Intermediate problems in statics, kinematics, and dynamics: equilibrium of forces, rectilinear motion, curvilinear motion, central forces, constrained motion, energy and moments of inertia, and the Lagrange method. Prerequisite: PHY 371, MTH 233.

400 Semiconductor Materials (3 credit hours)
Crystal structure, energy bands, charge carriers, and carrier motion in semiconductors. Electrical and optical properties. P-N junction diodes. Equilibrium, dc, ac. and transient characteristics. Metal-Semiconductor junctions. Device design. Prerequisite: PHY 240, 242, 244 and CHM 121.

401 Semiconductor Device Physics (3 credit hours)
Structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Design and computer modeling of devices. Prerequisite: PHY 300 or EP 300.

402 Semiconductor Device Processing (3 credit hours)
Survey of the individual processes used in fabricating semiconductor devices. Integration of these processes to produce MOS and bipolar structures. Computer design aids. Prerequisite: PHY 300 and 301 or ME 370 or permission of instructor.

420 Thermodynamics (3 credit hours)
First and second laws of thermodynamics; general thermodynamic formulas with applications to matter. Prerequisite: PHY 210 and 211 or PHY 244.

421 Statistical Thermodynamics (3 credit hours)
Topics include kinetic theory of gases, Maxwell-Boltzmann statistics, and an introduction to quantum statistics. Prerequisite: PHY 420.
422 Introduction to Geophysical Prospecting
(5 credit hours)
Introduction to principles of gravity, magnetic, seismic, electrical, and radioactive prospecting. Four hours lecture, two hours lab. Prerequisite: Junior standing, consent of instructor and MTH 229.

423 Seismic Exploration (4 credit hours)
Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration. Prerequisite: PHY 422 and MTH 231 or permission of the instructor.

424 Gravity and Magnetic Exploration
(4 credit hours)
Study of the theory of the earth's gravitational and magnetic fields and the application of these principles to resource exploration. Three hours lecture, two hours lab. Prerequisite: PHY 422 and consent of instructor.

425 Topical Concepts in Geophysics (4 credit hours)
Special topics in Geophysics. Prerequisite: PHY 400 or PHY 422 and consent of instructor.

426 Geophysics Seminar (1 credit hour)
Literature survey and student presentations on selected topics in geophysics. Prerequisite: PHY 422 or PHY 400.

432 Lasers (3 credit hours)
Introduction to the physics of lasers including emission and absorption processes in lasing, the factors controlling laser gain, the properties of optical resonators, and a survey of salient features for principal types of lasers. Prerequisite: PHY 260, MTH 233 or permission of instructor.

437 Seismic Data Processing (4 credit hours)
Digital filtering, deconvolution and migration of seismic data. Prerequisite: PHY 423.

442 Physical Optics (4 credit hours)
Interaction of light and matter and interpretation of these phenomena using the electromagnetic wave theory of radiation. Topics include emission, absorption, scattering, polarization, interference, diffraction, coherence, and holography. Prerequisite: PHY 352, MTH 333.

445 Integrating Physical Science and Mathematics I
(4 credit hours)
Integration of physics and mathematics, including science and math standards, physics education issues, inquiry teaching practices, and assessment addressed in the context of science and math process skills, measurement, and properties of matter. Prerequisite: PHY 245 or PHY 240.

446 Integrating Physical Science and Mathematics II
(4 credit hours)
Integration of physics and math, including science and math standards, physics education issues, inquiry teaching, practices, assessment and technology addressed in the context of kinematics, forces, and energy transfers. Prerequisite: PHY 445 or permission of instructor.

447 Integrating Physical Science and Mathematics III
(4 credit hours)
Integration of physics and mathematics, science and math standards, physics education issues, inquiry teaching, assessment, technology will be addressed in the context of electricity, magnetism, waves, optics. Prerequisite: PHY 446 or permission of instructor.

450 Electricity and Magnetism (3 credit hours)
Fundamental laws of electricity and magnetism from viewpoint of fields, Maxwell's equations, transient and steady state currents, electric and magnetic properties of matter, and electromagnetic radiation. Prerequisite: MTH 232, 233 and PHY 242 or 210 and 211.

451 Electricity and Magnetism (3 credit hours)
Fundamental laws of electricity and magnetism from viewpoint of fields, Maxwell's equations, transient and steady state currents, electric and magnetic properties of matter, and electromagnetic radiation. Prerequisite: MTH 232, 233 and PHY 450, 242 or 210 and 211.

452 Electricity and Magnetism (3 to 4 credit hours)
Fundamental laws of electricity and magnetism from viewpoint of fields, Maxwell's equations, transient and steady state currents, electric and magnetic properties of matter, and electromagnetic radiation. Prerequisite: MTH 232, 233 and PHY 451, 242 or 210 and 211.

460 Introduction to Quantum Mechanics
(4 credit hours)
Mathematical structure of quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure. Prerequisite: PHY 260, 372, MTH 333.

461 Introduction to Solid State Physics
(4 credit hours)
Selected properties of solids and their quantitative explanation in terms of simple physical models. Applications of quantum mechanics to solids. Three hours lecture, two hours lab. Prerequisite: PHY 260, MTH 233.

462 Nuclear and Particle Physics (4 credit hours)
Nuclear properties and models, radioactive decay, nuclear applications, elementary particle properties and interactions, the standard model. Prerequisite: PHY 460.

470 Selected Topics (3 credit hours)
Selected topics in physics. Prerequisite: PHY 372 and consent of the department.

480 Introduction to Theoretical Physics
(4 credit hours)
Introduction to classical theoretical physics. Emphasis on mechanics, electromagnetic field theory, and mathematical techniques. Prerequisite: PHY 372, PHY 452, MTH 333 and consent of department.
481 Introduction to Theoretical Physics
(3 credit hours)
Introduction to classical theoretical physics. Emphasis on mechanics, electromagnetic field theory, and mathematical techniques. Prerequisite: PHY 480.

482 Introduction to Theoretical Physics
(3 credit hours)
Introduction to classical theoretical physics. Emphasis on mechanics, electromagnetic field theory, and mathematical techniques. Prerequisite: PHY 481.

499 Special Honors Research Problems
(3 credit hours)
Special research in a recognized branch of physics, usually related to research carried on by the department. Critical analysis of results required.

Political Science/PLS

200 Political Life (4 credit hours)
Examination of political power relationships in contemporary society. Emphasizes the origins and forms of power and the key social structures exercising power with contemporary public issues. Provides case studies of the consequences of political relationships.

210 Introduction to Quantitative Methods of Political Science (4 credit hours)
Uses of quantitative political data with emphasis on contemporary research applications. Survey design and questionnaire construction. Analysis and interpretation of data. Prerequisite: MTH 102 or Level 3 on math placement exam.

211 Empirical Political Analysis (4 credit hours)
Scope and methods of empirical political research; concepts and hypotheses; explanation and prediction; and methodological approaches to the study of politics and political behavior. Prerequisite: PLS 210 or instructor permission.

212 American National Government (4 credit hours)
Introductory survey of American national government including study of political participation, interest groups, political parties, leadership, mass media, elections and campaigns, the Constitution, presidency, Congress, bureaucracy, and the courts.

222 International Politics (4 credit hours)
Introductory survey of the international political system including study of state and non-state actors, major features of the system, conflict roots and approaches to peace-keeping, and current issues. Prerequisite: PLS 200.

301 Modern Political Ideologies (4 credit hours)
Systematic analysis of the major political ideologies of the twentieth century with particular attention to democracy, fascism, communism, and nationalism.

305 Comparative Marxist Theory (4 credit hours)
Critical examination of the chief theories developed by Marx, Engels, Lenin, Stalin, Mao Tse-tung, Castro, and various revisionists. Emphasis on Soviet and Chinese ideologies.

315 Religion and Politics in America (4 credit hours)
(Also listed as REL 365) General examination of both the historical and the contemporary relation between religion and politics in the United States, with special reference to church/state separation.

321 City Politics (4 credit hours)
Also listed as URS 321.) Governments and politics of metropolitan regions; government structure and functions; and interest and power relations.

322 State Government (4 credit hours)
Survey and analysis of the structures and functions of the American states with special attention to the problems of federal-state and state-local relations, legislative apportionment, and urban growth.

323 Government of Ohio (4 credit hours)
Organization and functions of the government of Ohio with special attention to development, social structure, legal status, electoral processes, and fiscal problems.

324 Political Aspects of Urban Development (4 credit hours)
Institutional and political context of planning; laws, governmental structures and procedures, and urban politics.

325 African American Politics (4 credit hours)
Explores what makes African American politics distinctive from American politics and discusses the prerequisites for effective political and economic leadership in the black community. A major theme of the course is the notion of black power.

331 Political Parties (4 credit hours)

335 The American Presidency (4 credit hours)
General political functions, roles, and structure of the presidential office; limits and opportunities of presidential power; relations with Congress, courts, bureaucracy, the public, and the political party; and presidential personality.

337 The Legislative Process (4 credit hours)
Policy role, political functions, internal structure, and operation of Congress. Secondary concern for state legislatures and non-American legislative bodies.

340 Law and Society (4 credit hours)
Theories of law; in addition to the nature and functions of the judicial process.
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>342</td>
<td>Civil Liberties I: The First Amendment</td>
<td>4</td>
<td>Cases and related materials on the Bill of Rights and the 14th Amendment</td>
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<td>with emphasis on the First Amendment freedoms: freedom of speech, of the</td>
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<td>press, and of religion</td>
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<td>343</td>
<td>Civil Liberties II: Due Process and Equal</td>
<td>4</td>
<td>Cases and related materials on the enforcement of civil rights and liberties</td>
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<td></td>
<td>Protection</td>
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<td>through the due process and equal protection claims of the 14th Amendment.</td>
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<td>345</td>
<td>Public Administration</td>
<td>4</td>
<td>Also listed as URS 345. Nature and scope of public administration,</td>
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<td>administrative law, and public interest in the administrative process.</td>
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<td>346</td>
<td>Public Personnel Administration</td>
<td>4</td>
<td>Methods of employment, training, compensation, and employee relations in</td>
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<td>various levels of civil service. Examine organizations of public employees.</td>
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<td>347</td>
<td>American Public Policy Analysis</td>
<td>4</td>
<td>The nature and classification of public policy. Emphasis on fragmentation,</td>
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<td>incrementalism, and bargaining as a means of policy development. Impact of</td>
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<td>citizens on public policy. Survey of public policy goals and problems of</td>
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<td>public policy evaluation.</td>
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<tr>
<td>351</td>
<td>Political Systems of Western Europe</td>
<td>4</td>
<td>Comparative study of the political systems of Great Britain, France, and</td>
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<td>West Germany.</td>
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<td>352</td>
<td>Politics of Nationalism</td>
<td>4</td>
<td>Comparison of ethnic identity and politics in Western societies including</td>
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<td>the United States, Canada, Great Britain, and France. Topics include</td>
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<td>minorities and the welfare state, affirmative discrimination, and African</td>
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<td>American politics in the United States.</td>
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<td>354</td>
<td>Governments of East Europe</td>
<td>4</td>
<td>Introduction to the governments and politics of Eastern Europe, particularly</td>
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<td>since World War II. Includes current developments in Poland, Czechoslovakia,</td>
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<td>East Germany, Hungary, Rumania, Bulgaria, and Yugoslavia.</td>
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<td>356</td>
<td>Politics and Society in France</td>
<td>4</td>
<td>Examines the historic interaction of French culture and politics. Topics</td>
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<td>include the growth of the French nation and state, French society, the nature</td>
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<td>of modern politics and institutions, and France’s role in world affairs.</td>
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<td>358</td>
<td>Latin American Politics</td>
<td>4</td>
<td>Selected issues in the study of Latin American politics with an emphasis on</td>
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<td>the nature of the state and the role of institutions such as the military</td>
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<td>and unions in politics. Examples from major South American states and Mexico</td>
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<td>where appropriate.</td>
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<td>360</td>
<td>Politics of the Developing Nations</td>
<td>4</td>
<td>Comparative analysis of various problems, particularly political, confronting</td>
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<td>developing nations in nation building and development.</td>
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<tr>
<td>364</td>
<td>Contemporary African Politics</td>
<td>4</td>
<td>Political processes and governmental institutions of sub-Saharan Africa:</td>
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<td>special attention to dynamics of political development and social and</td>
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<td>economic change. Comparative analysis of selected African political systems.</td>
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<td>Prerequisite: core courses.</td>
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<tr>
<td>367</td>
<td>Political System of China</td>
<td>4</td>
<td>Analysis of political structures and processes of Communist China; focus on</td>
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<td>dynamic factors of socioeconomic and political development.</td>
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<td>368</td>
<td>Politics of Vietnam</td>
<td>4</td>
<td>An examination of the history, demography, politics, culture, and economy</td>
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<td>of Vietnam.</td>
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<td>370</td>
<td>International Theory</td>
<td>4</td>
<td>Study of recent findings in international politics. Explanations of world</td>
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<td>political developments such as war, alliance formation, and arms races.</td>
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<td>Prerequisite: PLS 222.</td>
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<tr>
<td>371</td>
<td>Current World Problems</td>
<td>4</td>
<td>Various views and perspectives on selected contemporary problems and trends</td>
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<td>in international politics.</td>
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<tr>
<td>374</td>
<td>International Human Rights</td>
<td>4</td>
<td>Examines the role of human rights in international relations and considers</td>
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<td>contending definitions of human rights and debates over policy by focusing</td>
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<td>on case studies including South Africa, China, Guatemala, and Bosnia.</td>
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<td>375</td>
<td>Human Rights in USA</td>
<td>4</td>
<td>Examines controversies over human rights in the United States and considers</td>
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<td>contending definitions of human rights and debates over policy by focusing</td>
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<td>on a range of issues including immigration, pornography, gay rights, race</td>
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<td>relations, and poverty.</td>
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<td>376</td>
<td>Peace Studies</td>
<td>4</td>
<td>Study of war, peace, and current efforts in dealing with international</td>
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<td>conflict. Examines the roots of war in American society and alternative</td>
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<td>strategies for elimination of war as an instrument of policy.</td>
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<tr>
<td>381</td>
<td>National Security Politics</td>
<td>4</td>
<td>Study of U.S. national defense and security policy process and the major</td>
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<td></td>
<td>strategic issues facing the U.S. government. Prerequisite: PLS 200 and major</td>
</tr>
<tr>
<td>382</td>
<td>US-Japan Foreign Relations</td>
<td>4</td>
<td>Examines the course of the relationship between the United States and Japan.</td>
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<td></td>
<td>Includes political, security, and economic issues.</td>
</tr>
<tr>
<td>399</td>
<td>Studies in Selected Subjects</td>
<td>1-4</td>
<td>Problems, approaches, and topics in the field of political science. Topics</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>vary.</td>
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</tbody>
</table>
Course Descriptions

402 Classical and Medieval Political Thought (4 credit hours)
(Also listed as PHL 431.) Critical examination of political ideas from 500 B.C. to A.D. 1500 with special attention to Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Luther, Calvin, and Machiavelli.

403 Political Thought: Hobbes to Mill (4 credit hours)
(Also listed as PHL 432.) Critical examination of political ideas from 1600 to 1900 with special attention to Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.

404 Twentieth Century Political Thought (4 credit hours)
Critical examination of 20th-century political theory. Emphasis on nature, methodology, evaluation, existing condition, and future of political thought.

406 Globalization Theories and Gender Politics (4 credit hours)
An examination of globalization theories and the gender politics of global restructuring.

407 Seminar in Political Theory (4 credit hours)
Readings, research, reports, and discussion on selected theorists, topics, and problems. Topics vary.

408 Radical Black Thought (4 credit hours)
Examines radical black thought and philosophy from a Pan-Africanist perspective, focusing primarily on the 20th century.

412 Topics in Empirical Political Analysis (4 credit hours)
Selected topics of methodological or analytical concern in contemporary political research.

420 Politics and the Novel (4 credit hours)
(Also listed as ENG 460) Study and critiques of political themes in works of selected 20th century authors, including social roles, activism, political awareness, power, government and conflict at the individual, institutional and international level. Prerequisite: ENG 102.

425 Seminar-Metropol Studies (4 credit hours)
Intensive interdisciplinary treatment of metropolitan studies. Reading and discussion of pertinent theory, methodology, and case studies. Practical research by students.

427 Urban Policy Analysis (4 credit hours)
(Also listed as URS 427) Study of selected urban problems and their relationship to the political environment. Use of simulation gaming to understand community development processes.

428 Contemporary African American Problems (4 credit hours)
The critical pedagogy of this course allows for an in-depth exploration of many problematic issues that assail African Americans from outside and within the black community itself. Several possible explanations and solutions will be addressed.

429 Urban Communications Theory (4 credit hours)
(Also listed as COM 429) Processes and institutions by which individuals and groups communicate in urban environment. Model of an urban communication system developed by interdisciplinary systems approach.

430 American Government Seminar (4 credit hours)
Selected topics related to American political institutions and processes. Emphasis on readings, discussion, and research.

431 Cyber Crime (4 credit hours)
Investigation of political and legal issues in computer and Internet based crime, including child pornography, computer fraud, and identity theft, prevention of cyber crime and responsibilities of computer owners and Internet servers.

433 Public Opinion (4 credit hours)
Opinion formation in American politics: relationship of opinion to public policy; voting behavior in American elections; role of mass media and political interest groups in policy process; and development of political attitudes and values.

434 Political Leadership (4 credit hours)
Development of political attitudes and values among leaders, activists, and the public. Relationship between personality, political leadership, behavior, and policy.

435 Seminar in Political Corruption (4 credit hours)
Analysis of political corruption including graft, law enforcement, organized crime and abuse of authority. Emphasis on reading, discussion and writing.

436 Criminal Law (4 credit hours)
Examines the nature of the criminal law and reviews the law pertaining to criminal liability: inchoate crimes: the elements of crimes against persons, property, and habitation; and the defenses to criminal actions.

437 Criminal Procedure (4 credit hours)
Examines the constitutional protections that the individual has when confronting the criminal justice system and examines the case law pertaining to the surrounding the fourth amendment (search and seizure), fifth amendment (self-incrimination), and sixth amendment (right to counsel).

438 Environmental Law and Policy (4 credit hours)
Examines environmental law and policy and reviews the statutory framework pertaining to environmental impact statements, the regulation of air and water pollution, the disposal and cleanup of toxic wastes, and workplace safety.

439 Bioethics and Law (4 credit hours)
Examines the legal implications of new biological technologies, particularly mind and behavior control, genetic engineering, birth and death control, and organ transplantation.
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>440</td>
<td>Constitutional Law</td>
<td>4</td>
<td>Studies in which provisions of the constitution have been judicially interpreted. Also examines federal systems, separation of powers, and limits on government.</td>
</tr>
<tr>
<td>441</td>
<td>Natural Resources Law</td>
<td>4</td>
<td>This course examines federal management of natural resources on public lands, specifically, water, minerals, timber, grazing, and wildlife. Constitutional authority, statutes, regulations, federalism, and judicial review of administrative decisions are analyzed.</td>
</tr>
<tr>
<td>442</td>
<td>Criminal Justice System</td>
<td>4</td>
<td>Survey of the American criminal justice system concentrating on political aspects. Police, judges, attorneys, supreme court decisions, crime, and public opinion.</td>
</tr>
<tr>
<td>443</td>
<td>Administrative Law Procedure</td>
<td>4</td>
<td>Study of the law controlling the process by which public agencies make and administer policy. Topics include policy formulation and budgeting, legislative delegation, administrative agencies, rule making, and adjudication.</td>
</tr>
<tr>
<td>446</td>
<td>Public Budgeting</td>
<td>4</td>
<td>Examination of the major phases of the governmental budget cycle: types of budget, budgetary reform, economic and public policy impact of government budgeting, decision-making process, and legislative/executive relations in budget formation and implementation.</td>
</tr>
<tr>
<td>447</td>
<td>SEM Public Admin</td>
<td>4</td>
<td>Selected national, state, and local problems with emphasis on legal scope of administrative power and on research methods used by staff agencies. Topics vary.</td>
</tr>
<tr>
<td>448</td>
<td>Gender Violence and American Politics</td>
<td>4</td>
<td>Examines gender violence in the United States. Considers the range of violence, its sources, and solutions. Topics include domestic violence, rape, eating disorders, reproductive rights, and pornography.</td>
</tr>
<tr>
<td>449</td>
<td>International Politics of Gender Violence</td>
<td>4</td>
<td>Cross-cultural examination of gender violence. Considers the range of violence, its sources, and solutions. Topics include domestic abuse, rape, female genital surgeries, prostitution, and reproductive rights.</td>
</tr>
<tr>
<td>450</td>
<td>Political Anthropology</td>
<td>4</td>
<td>(Also listed as ATH 450.) Study of that part of the culture of primitive societies that we recognize as political organization. An attempt is made to show how in less complex (primitive) societies new local communities come into being through fission.</td>
</tr>
<tr>
<td>453</td>
<td>Soviet Successor States</td>
<td>4</td>
<td>Examines the political life in the former Soviet Union, with emphasis on the legacy of communism and the role of economics and politics in the transition to democracy.</td>
</tr>
<tr>
<td>454</td>
<td>Politics of the Middle East</td>
<td>4</td>
<td>Introduction to governments and politics of the Middle East with special attention to cultural and historical background and the Arab-Israeli conflict.</td>
</tr>
<tr>
<td>460</td>
<td>Seminar on Comparative Political Systems</td>
<td>4</td>
<td>Readings, research, reports, and discussion of selected topics and problems. Topics vary.</td>
</tr>
<tr>
<td>461</td>
<td>Social Movements and Protests</td>
<td>4</td>
<td>Examines group behavior motivated by the desire to change political, economic, and social systems. Special attention will be given to movements outside of the United States, including cross-national and global movements.</td>
</tr>
<tr>
<td>470</td>
<td>Seminar in International Relations</td>
<td>4</td>
<td>Readings, research, reports, and discussion of selected topics and problems.</td>
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<tr>
<td>471</td>
<td>International Law</td>
<td>4</td>
<td>Study of rules governing the conduct of international politics with emphasis on their relevance to current world problems.</td>
</tr>
<tr>
<td>472</td>
<td>International Terrorism</td>
<td>4</td>
<td>Surveys the phenomenon of terrorism, who employs it, how and why it occurs in international politics, and how targets respond to terrorism. The special problems terrorism creates for democracies and the politics of hostage-taking are examined. Prerequisite: PLS 222. Prerequisite: PLS 222.</td>
</tr>
<tr>
<td>474</td>
<td>Politics of Women Terrorists</td>
<td>4</td>
<td>Examines the political behavior of women in crime and terrorism, including the roles played by women in criminal activities and terrorist groups. Prerequisite: PLS 222. Prerequisite: PLS 222.</td>
</tr>
<tr>
<td>475</td>
<td>Women, Gender and World Politics</td>
<td>4</td>
<td>An examination of the position of women and the power of gender in world politics through feminist international relations theory and case studies of women in international politics.</td>
</tr>
<tr>
<td>482</td>
<td>Legislative Internship</td>
<td>4</td>
<td>Experiential internship in the office of a state legislator, including office work, constituent assistance, and research. Sophomore standing and permission of instructor required.</td>
</tr>
<tr>
<td>484</td>
<td>Pre-Law Internship</td>
<td>4</td>
<td>Students volunteer 15 hours per week in Greene County Prosecutors office. Duties include preparing trial notebooks, legal research, courtroom observation, outreach, and other assistance to the prosecutor’s staff.</td>
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</tbody>
</table>
322 Course Descriptions

485 Chinese Foreign Policy (4 credit hours)
Examines foreign policy perspectives of modern Chinese leaders, including historical, political, economical and ideological priorities. Special attention will be given to China-U.S. relations, as well as China's role in international and regional organizations.

486 Model U.N. Seminar (4 credit hours)
Model U.N. is an experiential learning opportunity built around this seminar, with intensive training in research, public speaking, bargaining, and conflict resolution. Culminates at the national collegiate conference in New York, simulating the United Nations.

487 History & Politics of Intelligence Gathering (4 credit hours)
This course examines the history of intelligence gathering, analysis and application in policy-making in the United States. The tension inherent in a secret agency operating within a democratic state and the role of technology are addressed. Prerequisite: HST 101, 102, 103 and PLS 200.

490 Independent Reading (1 to 4 credit hours)
Supervised individual readings on selected topics. Arranged between students and faculty member directing the study.

491 Independent Research (1 to 4 credit hours)
Supervised individual research on selected topics. Arranged between students and faculty member directing the study.

492 Independent Field Experience (1 to 4 credit hours)
Supervised individual projects. May involve intern programs in local government or other special programs.

493 Contemporary Problems (1 to 4 credit hours)
Advanced study in selected topics that frequently include new developments in the methodology or subject matter of the various sub fields of the discipline.

493 Contemporary Problems (1 to 4 credit hours)
Advanced study in selected topics that frequently include new developments in the methodology or subject matter of the various sub fields of the discipline.

494 Special Topics (1 to 4 credit hours)
Study of particular political problems of contemporary significance.

Portuguese/POR

101 First Year Portuguese (4 credit hours)
Study of the vocabulary and structure of the Portuguese language; practice in conversation, reading, and writing.

102 First Year Portuguese (4 credit hours)
Study of the vocabulary and structure of the Portuguese language; practice in conversation, reading, and writing. Prerequisite: POR 101 or permission of instructor.

103 First Year Portuguese (4 credit hours)
Study of the vocabulary and structure of the Portuguese Language; practice in conversation, reading, and writing. Prerequisite: POR 102 or permission of instructor.

111 Essentials of Portuguese (4 credit hours)
Introduction to Portuguese with an emphasis on speaking the language. May be taken for a letter grade or pass/unsatisfactory. Prerequisite: POR 111 or permission of instructor.

112 Essentials of Portuguese (4 credit hours)
Introduction to Portuguese with an emphasis on speaking the language. May be taken for a letter grade or pass/unsatisfactory. Prerequisite: POR 111 or permission of instructor.

Psychology/PSY

105 Psychology: The Science of Behavior (4 credit hours)
Fundamental principles and practices of psychology are reviewed. Topics include social behavior, adjustment and mental health, motivation and emotion, and perception.

110 The Science of Behavior II (4 credit hours)
Fundamental principles and practices of psychology are reviewed. Topics include social behavior, adjustment and mental health, motivation and emotion, and perception.

111 Introductory Psychology (4 credit hours)
Introduction to basic concepts in the study of behavior with emphasis on methods of psychology: physiological considerations; motivation, sensation and perception; and learning and cognition.

112 Introductory Psychology (4 credit hours)
Introduction to basic concepts in the study of behavior with emphasis on statistics, psychological tests, development, personality, abnormal behavior, social psychology, and applied psychology.

200 Psychological Study of Contemporary Problems (2 to 4 credit hours)
Restricted psychological problem areas and their implications for modern society and modern intellectual thought. Topics vary. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

201 Divorce: Current Perspectives (4 credit hours)
Survey of theory, current research, and methodological issues relating to the divorce process, the effects of divorce on children, and professional intervention. Prerequisite: PSY 105 and 110 or PSY 111 and 112.
202 The Psychology of Non-Verbal Communication (4 credit hours)
Introduction to the perception of nonverbal sources of information and the impact on physical and cognitive behaviors. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

203 Psychology of Health Behavior (4 credit hours)
Survey of the contributions of the psychology of health care. The focus is both theoretical and practical, emphasizing the integration of physiological and psychological knowledge. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

208 Environmental Psychology (4 credit hours)
effects on behavior of environmental factors such as crowding, noise, pollution, temperature, lighting, and architecture. Applications of psychological knowledge and techniques in dealing with current environmental problems are also considered. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

209 Behavior Modification (4 credit hours)
Basic survey of the principles of conditioning as they relate to problems in human adjustment. General principles of the psychology of learning are emphasized, but are also applied through cases of interest to a wide variety of helping professionals. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

210 Psychology of Women and Men (4 credit hours)
Examines the current state of research evidence about sex differences in all aspects of human behavior, as well as patterns of public attitudes about the natures and proper roles of men and women. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

215 Psychological Principles in Commercial Films (3 credit hours)
This course is designed to teach principles of psychology and their application through commercial films. Films will be selected to illustrate psychological themes. Students would write short answers about how the film illustrates the themes. The instructor will raise the questions before the film to students can watch for specific themes. After the film, students would discuss the questions in class, in a web chat room, and on an electronic bulletin board. Prerequisite: PSY 105 and 110.

300 Research Design & Methods (5 credit hours)
Introduction to the design and execution of behavioral studies, including laboratory experiments and field observations. Laboratory exercises give students practice dealing with problems and data from a representative sample of areas within psychology. Three hours lecture, four hours lab. Prerequisite: STT 265, PSY 105 and 110 or PSY 111 and 112.

304 Industrial and Organizational Psychology (4 credit hours)
Scientific psychological principles, procedures, and methods applied to human behavior in organizations. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

306 Engineering Psychology (4 credit hours)
(Also listed as HFE 306.) Introduction to the study of human factors in the design and operation of machine systems. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

307 Tests and Measurements (4 credit hours)
Introduction to the construction and use of attitude scales, and aptitude and ability tests in organizational settings, with emphasis on the use of standard tests. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

311 Abnormal Psychology (4 credit hours)
Overview of facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, and causes and treatment of abnormal behavior. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

321 Cognition and Learning (4 credit hours)
Survey of cognitive processes with an emphasis on learning and memory systems. Topics include short-term memory, retrieval mechanisms, conceptual structures, cognitive skill tests (e.g., IQ tests), mnemonics techniques, and amnesia. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

323 Cognition & Learning Methods (4 credit hours)
Laboratory research in various areas of cognitive psychology. Two hours lecture, four hours lab. Prerequisite: PSY 321, 300.

331 Psychology of Personality (4 credit hours)
Review of contemporary theories of personality and associated research methodology. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

333 Personality Research Methods (4 credit hours)
Laboratory experience in research techniques related to experimental personality. Examines problems of design with students expected to develop and implement a research proposal. Two hours lecture, four hours lab. Prerequisite: PSY 300 and PSY 331.

341 Lifespan Developmental Psychology (4 credit hours)
Survey of theory, research, and methodological issues in the study of development across the lifespan. Prerequisite: PSY 105 and 110 or PSY 111 and 112.
343 Developmental Psychology Methods
(4 credit hours)
Survey of research design appropriate to developmental analysis, innovations in developmental methodology, and laboratory experience in the selection, design, and analysis of developmental problems of specific interest to individual students. Two hours lecture, four hours lab. Prerequisite: PSY 341.

351 Social Psychology (4 credit hours)
Survey of current theories and experimental findings regarding the determinants of social behavior. Prerequisite: PSY 300 and 110 or PSY 111 and 112.

353 Social Psychology Methods (4 credit hours)
Laboratory course in methods and problems involved in social psychology research. Two hours lecture, four hours lab. Prerequisite: PSY 351.

361 Conditioning and Learning (4 credit hours)
Problems and methods of research in conditioning, learning, and motivation. Two hours lecture, four hours lab. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

363 Conditioning and Learning Methods
(4 credit hours)
Problems and methods of research in conditioning, learning, and motivation. Two hours lecture, four hours lab. Prerequisite: PSY 361.

371 Perception (4 credit hours)
Study of the active processes by which organisms gather, interpret, and respond to environmental stimuli. Prerequisite: PSY 105 and 110 or PSY 111 and 112.

373 Perception Methods (4 credit hours)
Laboratory experience and research techniques in various areas of perception. Two hours lecture, four hours lab. Prerequisite: PSY 300 and 371.

391 Behavioral Neuroscience (4 credit hours)
Physiological mechanisms of behavior. Emphasis on motivational systems and learning. Prerequisite: PSY 105 and 110 or PSY 111 and 112. No prerequisite for biology majors.

392 Behavioral Neuroscience II (4 credit hours)
Physiological mechanisms of behavior. Emphasis on motor and sensory systems. Prerequisite: PSY 300 and 391.

393 Behavioral Neuroscience Methods
(4 credit hours)
Laboratory exercises in neuropsychology. Two hours lecture, four hours lab. Prerequisite: PSY 300 and 392.

400 Advanced Research Design and Quantitative Analysis (4 credit hours)
Use of factorial designs and multivariate tests in psychological research. Prerequisite: PSY 300.

401 Advanced Experimental Design: Packaged Computer Programs (4 credit hours)
Focus on the use of canned computer programs such as SPSS, SAS, and BIOMED in the design, analysis, and interpretation of behaviorally oriented research. Prerequisite: PSY 300 and 400.

411 Advanced Topics in Abnormal Psychology
(4 credit hours)
Theories and research relating to causes, symptoms, and influences of abnormal behavior. Prerequisite: PSY 311.

419 Advanced Topics in Behavioral Neuroscience
(4 credit hours)
Detailed examination of selected areas in physiological psychology. Prerequisite: PSY 391.

421 Advanced Topics in Cognition and Learning
(4 credit hours)
Detailed examination of selected areas in cognition and learning. Prerequisite: PSY 321.

425 Human-Computer Interface (4 credit hours)
Relationship of human cognitive, perceptual, and language processes to the effective operation of computer systems. Review of research and theory. Prerequisite: PSY 321, CS 142.

429 Advanced Topics in Interpersonal Relations
(4 credit hours)
Interpersonal relations as a subject of research and theory. Consideration of application to therapeutic intervention and everyday interaction. Prerequisite: PSY 331 or PSY 351.

431 Advanced Topics in Personality (4 credit hours)
Review of selected topics in personality. Selected personality constructs and their measurement (e.g., need for achievement, self-concept) as well as situational determinants of behavior. Prerequisite: PSY 331.

432 Practicum in Applied Psychology (4 credit hours)
Work under supervision in an applied psychological setting consistent with students' individual interests (e.g., mental health agency, industrial, or organizational setting). Graded pass/unsatisfactory. Prerequisite: Advanced standing in psychology.

433 Developmental Psychopathology (4 credit hours)
Survey of theoretical approaches to the description and explanation of childhood psychopathology, overview of current research in the area of childhood psychopathology, and description of methodological problems involved in clinical research with children. Prerequisite: PSY 300 and PSY 341.

439 Theory and Research in Clinical Psychology
(4 credit hours)
Overview of contemporary clinical approaches, research techniques, and empirical data. Prerequisite: PSY 311.
**441 Advanced Topics in Developmental Psychology (4 credit hours)**

Development of learning and cognition in children covered in depth. Prerequisite: PSY 341.

**443 Psychometrics (4 credit hours)**

Emphasis on measurement theory and its applications including concepts of reliability, validity, discrimination, and prediction. Prerequisite: PSY 300.

**444 Advanced Industrial Psychology (4 credit hours)**

Theories and research findings in selected topics in industrial psychology. Prerequisite: PSY 300 and PSY 304 or permission of instructor is required.

**447 Psychology of Aging (4 credit hours)**

Overview of the theoretical, methodological, and conceptual issues in the study of human aging. Focus on both current research and applied relevance. Prerequisite: PSY 111, 112, 341.

**449 Theory and Research in Hypnosis (4 credit hours)**

Presentation of hypnosis as a subject of research and theory. Coverage of history, myths, legal and ethical aspects, relation to psychopathology and to normal personality traits, applications in psychology, medicine, and dentistry, and potentials and limitations in regard to self-control and self-improvement. Prerequisite: PSY 111, 112, and 311 or 331.

**450 Biofeedback: Research and Application (4 credit hours)**

Introduction to biofeedback in the context of general behavior theory of learning. Literature is surveyed. Topics include problems of methodology and experimental design and application to problems in clinical psychology. Prerequisite: PSY 361, 391 recommended.

**451 Advanced Topics in Social Psychology (4 credit hours)**

Detailed examination of selected areas of current research in social psychology. Prerequisite: PSY 351.

**455 Psycholinguistics (4 credit hours)**

An overview of Language: its development during the first years of life, its biological basis, its normal and abnormal characteristics.

**457 Psychology of Administrative Principles for Social Agencies (4 credit hours)**

A survey of the basic social psychological principles involved in administration of mental health and mental retardation programs. Focus is on factors governing application of those principles to communication, organizational development, and supervision within the mental health/mental retardation field. Prerequisite: Senior standing and consent of instructor.

**465 Information Processing (4 credit hours)**

Study of information processing skills such as selective attention, pattern recognition, reading, problem solving, and human performance. Prerequisite: PSY 321.

**471 Advanced Topics in Perception (4 credit hours)**

Emphasis on modern controversial issues and theories. Prerequisite: PSY 371.

**475 Signal Detection Theory in Psychology (4 credit hours)**

Presents signal detection theory in the context of Thurstsonian scaling and statistical decision theory. Studies the application of signal detection theory in various areas of psychology including psychophysics, memory, physiology, and psycholinguistics. Prerequisite: PSY 300.

**478 Animal Behavior (4 credit hours)**

Physiology, phylogeny, and ontogeny of behavior. Prerequisite: BIO 112, 114, 115; or BIO 105, 106, 107; or PSY 111, 112, 300. Prerequisite: BIO 111, 112, 114; or BIO 101, 102, 103; or PSY 111, 112, 300. One course in statistics suggested. BIO 302 suggested.

**481 History of Psychology (4 credit hours)**

Major trends in the development of psychology from its beginnings to the modern period. Prerequisite: PSY 111 and 112 and advanced standing in psychology.

**482 Theories and Systems in Psychology (4 credit hours)**

Comprehensive treatment of the historical antecedents for selected theories and systems in psychology. Prerequisite: PSY 111-112.

**488 Seminar in Special Topics (1 to 4 credit hours)**

Topics vary.

**489 Honors Seminar (2 credit hours)**

Primarily derived from current honors thesis research. Literature surveys, experimental designs, and special analytical problems presented and discussed by students and faculty. Topics vary. Prerequisite: Acceptance into the psychology honors program.

**490 Independent Readings in Selected Topics in Psychology (1 to 4 credit hours)**

Specific topics selected by students and instructor. Graded pass/unsatisfactory.

**498 Independent Research (1 to 4 credit hours)**

Original problems for investigation. Graded pass/unsatisfactory.

**499 Honors Research Project (1 to 4 credit hours)**

Original problems for investigation leading to a psychology department honors thesis. Prerequisite: Acceptance into the psychology honors program.
Religion/REL

204 Great Books: The Bible and Western Culture (4 credit hours)
Study of selected Biblical writings viewed in their original cultural contexts and chosen to reflect the varieties of Biblical literature, the Bible's relationship to various societies, and its role in the development of Western culture.

205 What is Religion? (3 credit hours)
Explores the question of the meaning of religion by looking at various ways in which people experience and express it. Diverse examples of religion and religious life are considered.

206 Eastern Religions (3 credit hours)
General introduction to the major religious traditions of South Asia and East Asia: Hinduism, Buddhism, Confucianism, Taoism, and Shintoism.

207 Western Religions (3 credit hours)
General introduction to the major religious traditions of Judaism, Christianity, Islam, and other selected religious traditions.

208 Contemporary Issues in Religion (3 credit hours)
Study of selected problems, ideas, and religious developments that have become important in contemporary society.

220 Hebrew Scripture (Old Testament) (3 credit hours)
Introduction to the literature, history, and religion of ancient Israel.

221 Between the Testaments (3 credit hours)
Introduction to the literature and religion in Jewish sects from the Exile (ca. 500 B.C.E.) to the Mishnah of Judah the Prince (200 C.E.), including the Dead Sea Scrolls.

222 Literature and Religion of the New Testament (3 credit hours)
Introduction to the literature, history, and religion of early Christianity.

231 Religion and the American Experience (3 credit hours)
Survey of different religions in the United States with attention to the growth of a distinctive form of religion shaped by the American experience.

235 Introduction to the Afro-American Religious Experience (3 credit hours)
Survey of the black American religious experience from the colonial era to the present. Examines what black American religion is and the role it plays in the sociopolitical life of Afro-Americans.

245 World Religions (3 credit hours)
Comparative study of the role of religion in cultures and societies on the international scene.

246 African Religion (3 credit hours)
Focuses on the religious concepts and practices of premodern African tradition.

270 Approaches to Religious Ethics (3 credit hours)
Examination of various religious ethical systems from diverse cultural situations.

280 Philosophy of Religion: Faith and Reason (3 credit hours)
(Also listed as PHL 280.) Selected cross-disciplinary issues arising from philosophy and religion: Judeo-Christian concept of God, grounds for belief and disbelief, revelation and faith, religious language, verification, immortality and resurrection, and karma and reincarnation. Issues are discussed on the basis of selected texts on faith and reason.

281 Philosophy of Religion: Contemporary Western Survey (3 credit hours)
(Also listed as PHL 281.) Cross-disciplinary perspective on philosophical and religious schools of thought in the early 20th century. Absolute and personal idealism, spirit, value, positivism and naturalism, history and culture, modernism and pragmatism, religious consciousness, and phenomenology.

290 Current Problems (3 credit hours)
Investigation and discussion of a single current problem in the field of religion.

300 Religion in America (3 credit hours)
Concentrates on specific segments of American religious life. Focuses on one or more distinctive religious groups or movements in the context of American history and culture.

310 Early and Medieval Western Religious Thought (4 credit hours)
Survey of important themes in religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.

311 Reformation and Modern Western Religious Thought (4 credit hours)
Survey of important themes in the religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.

315 Christianity (4 credit hours)
Examination of the structures of religious experience that have shaped the development of Christianity in history. Institutional and ritual forms are investigated as systems of meaning against the backdrop of the general history of religions.

316 Judaism: Faith and People (4 credit hours)
Examination of Judaism as a religious faith and people, with special reference to formative historical, social, ethnic, and cultural factors.

318 Contemporary Jewish Thought (4 credit hours)
Examination of the major themes and issues in the works of contemporary Jewish thinkers (e.g., Borowitz, Herberg, Fackenheim, Kaplan, Rothschild, Heschel, Rubenstein, and Weisel).
321 Religions in the Biblical Period (4 credit hours)
Examination of selected religious movements and/or problems in the Biblical period, and their interconnectedness and mutual influences.

322 Topics in Biblical Literature (4 credit hours)
Examination of selected aspects of Biblical literature from both literary and historical perspectives to explore the possible structures, functions, and meanings of this literature for its original community.

330 Topics in American Religion (4 credit hours)
Examination of selected topics in American religion to investigate its basic religious structures and to explore the relationship of religious phenomena to their cultural context.

331 New Religious Movements in America (4 credit hours)
Considers a variety of new religious movements in America, including Shakers, Mormons, Seventh-Day Adventists, and Jehovah's Witnesses.

332 Women and Religion in America (4 credit hours)
General examination of the role women have played in American religious history, with special reference to the diversity of women’s religious experiences.

340 Topics in Asian Religion (4 credit hours)
Studies in the religious dimension of Asian cultures with attention to historical, social, and aesthetic perspectives.

341 Islam (4 credit hours)
Study of the origin and development of Islam including contemporary issues and problems.

344 Religion in Japanese Life (3 credit hours)
Examination of the role of religion in Japanese culture and society with attention to both historical development and current issues.

357 Understanding Death (4 credit hours)
Basic issues in death and dying using resources from human sciences and humanities in religious perspective.

361 Religion and Society (4 credit hours)
(Also listed as SOC 361.) General treatment of religion as a social institution, examining the influence of religious ideas and organizations on other social institutions and the influence of society on religion. Prerequisite: Introductory courses in religion or sociology.

362 Anthropology of Religion (4 credit hours)
(Also listed as ATH 346.) Anthropological approach to the meaning and function of religion in social life and the nature of the thought or belief systems that gave rise to different forms of religious life; emphasis on primitive and peasant societies.

363 Religion and Psychology (4 credit hours)
Introduction to selected themes, issues, and problems in the interaction of religion and psychology. Differing points of view are considered.

365 Religion and Politics in America (4 credit hours)
(Also listed as PLS 315.) General examination of both the historical and the contemporary relation between religion and politics in the United States, with special reference to church/state separation.

370 Studies in Ethics: (4 credit hours)
Special topics for intensified study of the ethical dimensions of a particular religious tradition or for concentrated study in theoretical or practical ethical problems. Topics vary.

371 Business Ethics (4 credit hours)
(Also listed as PHL 371.) Case studies and discussion of ethical issues involved in business transactions and management.

378 Ethics and Medicine (4 credit hours)
(Also listed as PHL 378.) Examination of ethical issues confronting society in areas of medicine and health care, from perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.

382 Philosophy of Religion: Process (4 credit hours)
Also listed as PHL 382.) Realism and the revolt against idealism. Cross-disciplinary analysis of major contemporary philosophers and the implications of their thoughts for religion. Focus on Alfred North Whitehead.

383 Philosophy of Religion: Secular (4 credit hours)
(Also listed as PHL 383.) Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed (sensation, morality, beauty, reason, and human relations). Examination of presuppositions of contemporary secular religion in existentialism.

390 Studies in Selected Subjects (4 credit hours)
Problems, approaches, and topics in the field of religion. Topics vary.

394 Existentialism (4 credit hours)
(Also listed as PHL 394.) Representative writers of the existentialist movement.

431 Religion in American Life (4 credit hours)
Development of religious thought and institutional life in the United States viewed in relationship to American social change.

435 Black American Religious Thought (4 credit hours)
Analysis of black American religious thought through critical study of the writings of selected figures who have helped shape black religion from 1780 to the present.
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443 Asian Religious Philosophy (4 credit hours)
(Also listed as PHL 443.) Perennial themes in Asian cultures (such as individual, society, and cosmos; appearance and reality; time and history; karma, freedom, and responsibility) as they have been treated in the philosophical traditions of these cultures.

456 Religious Themes in Literature (4 credit hours)
(Also listed as ENG 460.) Provides intensive study of literary works in terms of significant and recurring religious themes and images as they can be traced in various cultures and literary traditions. Prerequisite: Junior or senior standing.

479 Ethics in an Industrial Society: The Responsibility of Business in Society (3 credit hours)
Ethical responsibilities of business in light of political, moral, social, and religious considerations. Emphasis on analysis and evaluation of the changing framework of responsibilities facing both business organizations and their leaders.

487 Evolution, Religion and Ethics (4 credit hours)
(Also listed as BIO 417.) Introduction to the biological, philosophical, theological, and ethical aspects of evolution. Prerequisite: Junior or senior standing.

493 Seminar in Religion (4 credit hours)
Topics vary.

494 Undergraduate Research in Religion (1 to 4 credit hours)
Intensive consideration of problems and issues in a given area of religious study; topics determined in consultation between students and department. Graded pass/unsatisfactory at discretion of department.

497 Senior Project (4 credit hours)
Guided research culminating in a major paper on a topic chosen by the student and the instructor. Students develop a comprehensive bibliography, prepare a detailed outline, and write and revise the final project.

498 Workshop (3 credit hours)
Intensive study of selected problems (e.g., the teaching of religion in the secondary school, medical ethics) to meet particular needs of participating students. Topics vary.

Rehabilitation/RHB

101 American Sign Language I (4 credit hours)
Introduction to manual communication for professionals preparing to work in rehabilitation or anyone interested in learning sign language.

102 American Sign Language II (4 credit hours)
Continuation of the introduction to manual communication. Emphasis is on conversational skills. Aspects of deafness are covered through speakers and readings. Prerequisite: RHB 101.

103 America Sign Language III (4 credit hours)
Emphasis on skill improvement in American Sign Language. Aspects of deafness are covered through an off-campus field experience. Prerequisite: RHB 101. RHB 102.

201 Introduction to Rehabilitation (4 credit hours)
Philosophy, history, and development of rehabilitation. Familiarizes students with areas considered when providing services to people with physical and/or mental disabilities. Students also obtain an understanding of the rehabilitation code of ethics and sociocultural influences.

202 Rehabilitation Resources (4 credit hours)
Prepares students to locate and evaluate the local, state, and federal resources available to meet the needs of persons with disabilities. Students will visit community agencies and volunteer in a community agency of their choice for a minimum of 25 hours during the quarter.

203 Pre-Practicum Field Experience (4 credit hours)
This course is designed to provide students with an early experience of working with physically/mentally disabled persons in a structural setting: It will assist students in determining their suitability to work with specific groups. Requires the student to spend 10 (10) hours per week working with people who have disabling conditions. A practicum seminar will permit students to discuss and explore different rehabilitation practicum and professional characteristics which facilitate the rehabilitation process. Students will be supervised by the university and agency supervisors. Prerequisite: RHB 201, 202.

210 Introduction to Alcohol and Drugs (4 credit hours)
This course explores concepts, social policy, and approaches related to alcohol and drug use including the addiction process, costs of abuse to the individual, family and society, and successful approaches for dealing with abuse.

213 Introduction Field Experience in Rehabilitation (3 credit hours)
Seventy-five clock hours of supervised field experience intended to acquaint community/rehabilitation services students with career options, with the structure and administrative procedures of various human services agencies, and with the application of client-intake procedures.
214 Rehabilitation Services Interviewing
(3 credit hours)
Introduction to the role of the rehabilitation services aide in the client-intake process, and how this process occurs within the organizational structure of human services agencies. Prerequisite: RHB 201.

223 Advanced Field Experience in Rehabilitation
(3 credit hours)
Seventy-five clock hours of supervised field experience intended to provide community/rehabilitation services students with in-depth knowledge of the structure and processes of a selected agency, the job description duties of the rehabilitation services aide within this agency, and the special social, personal, and vocational needs and problems of the target client population.

228 American Sign Language IV (4 credit hours)
This intermediate course develops grammatical and vocabulary competency in sign formation, vocabulary, morphology, syntax, and discourse. Prerequisite: RHB 101, RHB 102, RHB 103, or permission of instructor.

229 American Sign Language V (4 credit hours)
Higher Level grammatical features of American Sign Language are covered to enhance receptive and productive mastery of its grammar and vocabulary. Practical application of conversational and interactive scenarios are also covered. Prerequisite: RHB 101, 102, 103, 228 or instructor permission.

230 American Sign Language VI (4 credit hours)
Interactive scenarios mastering grammar and vocabulary are covered via telling life events, describing events in time, asking for clarification, correcting, conforming, elaborating on information, agreement/disagreement resolving conflicts, and giving direction. Prerequisite: RHB 101, 102, 103, 228, 229 or instructor permission.

301 Medical Aspects of Rehabilitation I
(4 credit hours)
Introduction to medical terminology and system disorders that usually have continued and long-standing residual effects and that commonly require rehabilitation intervention. Considers how disabling conditions impact vocational and social activities of daily living. Attention given to the pharmacological aspects of treating disabilities. Prerequisite: BIO 105, 106, 107, RHB 201.

302 Medical Aspects of Rehabilitation II
(3 credit hours)
Examination of the treatment and rehabilitation of those physical disabilities that impose chronic limitations on activity. Consideration of the social and vocational adjustments that must be made by the individual. Prerequisite: RHB 301

303 Strategies for Employing Persons with Disabilities
(4 credit hours)
Overview of job development and job placement techniques. Various methods to access the job market through job seeking skills, resume preparation, occupational information, and job analysis are discussed. Attention is given to attitudinal and architectural barriers that people with disabilities may encounter in their job search process. Prerequisite: RHB 201, 301.

304 Rehabilitation Casework (4 credit hours)
Assists students in acquiring skills in interviewing, case recording, writing rehabilitation plans with appropriate justifications, and case management. Prerequisite: RHB 201, 202, 301 and Junior standing.

305 Substance Abuse: Societal and Human Issues
(4 credit hours)
Provides an overview of the social, cultural, and psychophysiological effects of substance abuse. Emphasis is on alcoholism and other popular mind-altering drugs. Prerequisite: RHB 201, RHB 301 or permission of instructor, junior standing.

370 Independent Study of Minor Problems in Rehabilitation (1 to 3 credit hours)
Independent study in areas of interest to students that are not readily available in any existing course. Topics vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: Junior standing.

401 Mental Retardation/Psychiatric Disabilities
(4 credit hours)
Introduction to the etiology, signs, symptoms, and rehabilitation of people with mental retardation/psychiatric disabilities. Prerequisite: RHB 201, 301; PSY 311.

402 Career Assessment (4 credit hours)
The course will assist students to develop skills in test administration, scoring, interpretation, behavior observation, report writing, and the development of comprehensive career path for the individual being assessed. Hands-on experience will be an integral part of the course. This course is a WAC course for the rehabilitation services major/minor. Prerequisite: RHB 202, 301, 303, 401.

403 Rehabilitation Practicum (4 to 12 credit hours)
Rehabilitation community field placement will assist the integration of skills learned throughout the program. Requires 400 clock hours of field work supervised by faculty and the agency, plus processing time. Prerequisite: RHB 201, 202, 301, 303, 304, 401, 402, 407, CNL 461, 467 and the currently required grade point average.
404 Independent Living/Rehabilitation Technology (4 credit hours)
Discusses the history and current philosophy/application of the independent living movement and rehabilitation technology in rehabilitation services. Process will be addressed in this course. Prerequisite: RHB 201, 301, 303, 401, 402.

407 Principles of Rehabilitation Counseling (4 credit hours)
Focuses on the development of basic skills and attitudes associated with rehabilitation counseling. Interview style and format are examined along with listening and responding techniques associated with holistic approaches. Prerequisite: RHB 201, 202, 301, 304, CNL 461.

408 Community Aspects of Deafness (4 credit hours)
This course is designed to introduce students to the social, cultural, and linguistic history of the deaf community in the United States. Off campus field experience is required. Prerequisite: RHB 201, 202, 301, 405, and 406.

409 Intermediate Sign Language (4 credit hours)
This course is designed to improve the students' skills in American Sign Language. Consideration will be given to signed English and procedures required to obtain interpreters for the deaf. Prerequisite: RHB 201, 202, 301, 405, 406 and 407.

410 Counseling Aspects of Deafness (4 credit hours)
To develop a broader understanding of the psychological, medical, social, and vocational concerns of hearing-impaired individuals. Focus will be upon acquiring basic counseling skills, medical aspects of hearing, and attitudinal barriers. Prerequisite: RHB 301, 405.

411 Physical Disability and Human Behavior (4 credit hours)
This course is designed to familiarize students with the interaction of physical disabilities and human behavior. Appropriate group approaches will be reviewed. Prerequisite: RHB 301, 407 and CNL 461.

432 Death, Dying and Grieving (3 credit hours)
(Also listed as HPR 432.) A course in death, dying, and grieving for health educators who deal with grief and loss in situations such as death, dying, survivorship, children and loss, second marriages, suicide, and other events of trauma.

470 Special Topics (1 to 3 credit hours)
Special workshop courses to meet the needs of in-service rehabilitation professionals as well as providing courses on a one-time basis to meet special interests. May be taken for letter grade or pass/unsatisfactory. Prerequisite: Junior standing.

Research/Intelligence Analysis/RIA

400 History of Information Gathering and Dissemination (4 credit hours)
A survey of how humans throughout history have sought, acquired, disseminated, and used information, with the emphasis on political and state action, including intelligence and espionage. Prerequisite: Junior standing required.

420 Senior Research Project (4 credit hours)
A seminar in research and intelligence analysis, which will require each student to conduct research and make oral and written presentations on an approved topic. Enrollment limited. Prerequisite: Junior standing required.

Rehabilitative Medicine & Restorative Care/RM

499 Special Problems in Rehabilitative Sciences (1 to 4 credit hours)
This course enables students to explore selected research topics related to the rehabilitation of various patient populations. Students and faculty advisors will interact to establish specific course requirements.

Regional Studies/RSE/RSE

260 Regional Economic Studies: Pacific Rim (4 credit hours)
Introduction to the economic and political development of the societies of East Asia and the Pacific Islands and their role in the global economy.

Regional Studies/RST

261 Regional Studies: Japan (4 credit hours)
Examines the development of Japanese civilization, covering topics such as the cultural and physical geography, the economic and political institutions, traditions and their effects on behavior, appreciation of nature as well as the visual and performing arts.

262 Regional Studies: China (4 credit hours)
Introduction to the historical, cultural, economic, and political reality of the world's most populous country, highlighting the cultural contributions of China's rich history, not only in the creation of modern Chinese culture but its impact on other cultures.
Russian/RUS

101 First Year Russian (4 credit hours)
Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing. Prerequisite: None.

102 First Year Russian (4 credit hours)
Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing.

103 First Year Russian (4 credit hours)
Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing. Prerequisite: RUS 102.

201 Second Year Russian (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 103 or equivalent

202 Second Year Russian (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 201 or equivalent.

203 Second Year Russian (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 202 or equivalent.

Science and Mathematics/SM

145 Foundations in Scientific Literacy and Problem Solving (3 credit hours)
Fundamental concepts in science treated in an interdisciplinary way and integrated with mathematics. Emphasis on development of science process skills and problem-solving abilities. Introductory experience to a constructivist and cooperative learning environment. Prerequisite: MTH 126 OR 127 or Level 4 on Math Placement Test.

198 Introduction to Science and Mathematics (2 credit hours)
Introduces students to curriculum, activities, services, and associations within the College of Science and Mathematics. Emphasis is placed on developing study skills, critical thinking processes, and career preparation in science and math. Graded pass/unsatisfactory.

199 Topics in Science & Math (2 to 6 credit hours)
Course offers challenging opportunities to participate in Mathematics, Biological Sciences, Chemistry, Geological Sciences, Physics and Psychology to academically talented students. Students work in small study groups, which allows personal interaction with university research professors.

205 Great Ideas in Science (4 credit hours)
Serves as a foundation for other science courses; introducing unifying concepts and principles in the natural sciences; 4 hours lecture.

445 Projects in Science (3 credit hours)
An exercise in the application of data collection and analysis to an assigned small group project, reflecting aspects of the four basic sciences. 1 hour meeting and outside project.

446 Projects in Science II (3 credit hours)
Using a variety of resources, including the course website, students will individually design, implement an extended scientific investigation into one of the four basic science areas. Prerequisite SM 445 or instructor permission. Prerequisite: SM 445 or instructor permission.

Sociology/SOC

200 Social Life (4 credit hours)
Introduction to the processes through which individuals become members of groups, organizations, institutions, and societies, and how human social interactions lead to changes in social life and structures.

201 Modern Society (3 credit hours)
Problems facing modern society and possible solutions. Exploration of such questions as: What is the nature of modern society? How are modern political, economic, and educational systems organized?

204 Sociology Career Seminar (2 credit hours)
Designed to help students think about their futures, become familiar with career options, relate theoretical work to practical concerns, and plan their course work with an awareness of postgraduate needs.

205 The Sociological Imagination (4 credit hours)
Students will examine a variety of approaches and perspectives that systematically analyze complex individual and institutional behaviors as they vary culturally, subculturally, and cross-culturally.

210 Courtship and Marriage (3 credit hours)
Analysis of family behavior in the United States stressing courtship, preparation for marriage, developmental tasks in marriage, child rearing, and marital tension.

221 Exploring Social Issues (3 credit hours)
Focuses on specific social problems. Topics vary.

231 Violence (3 credit hours)
Defines violence, explores patterns at individual and group levels, and examines explanations for change in quantity and intensity. Areas covered include criminal violence, domestic violence, rape, homicide, and genocide.

300 Sociological Analysis (4 credit hours)
Course focuses upon the development of conceptual models used to analyze and interpret data in the social sciences. Prerequisite: MTH 126 or MTH 127 or equivalent.
301 History of Sociological Thought (4 credit hours)

Historical study of the emergence and development of sociological thought from Adam Ferguson and Montesquieu through the 19th century; emphasis on the basic writings of Comte, Spencer, Marx, and others. Prerequisite: 9 hours of sociology.

303 Contemporary Sociological Theory (4 credit hours)

Analyzes contemporary sociological theory (structural functionalism, symbolic interactionism, critical theory, and phenomenological theory) with a focus on the interpretation of society and on major figures of the 20th century.

306 Introduction to Research METH (4 credit hours)

Philosophical and applied issues of sociological investigation. Various means of collecting sociological data are analyzed.

310 Sociology of Gender (4 credit hours)

Introduces the theoretical and conceptual underpinnings of women's studies through exploring the changing historical, cultural, and social expressions of gender. Also examines social roles, institutions, policies, and movements which affect women.

313 Invasive Alcohol Education Program (1 credit hour)

Students are observer/participants in the intensive alcohol education program which presents individuals with factual material about the effect of substance abuse, both physically and socially, so that they can make knowledgeable decisions about their usage. Graded pass/unsatisfactory.

315 Drug and Alcohol Intervention Workshop (3 credit hours)

Participant observation of the intervention and treatment of drug and alcohol problems including therapy and counseling groups, client/therapist contact, and professionals practicing intervention and confrontation techniques. May be taken for letter grade or pass/unsatisfactory. Prerequisite is one of the following: CNL 461, CNL 466, PSY 311, PSY 331, RHB 301, RHB 407, SW 270, SW 481, SW 482, SW 483, SOC 320, SOC 461 or Premedical/Prenursing concentration.

320 Sociology of Deviant Behavior (4 credit hours)

Extensive exploration of the various sociological approaches to the study of deviance and social disorganization with emphasis on contemporary sociological theory and research. Prerequisite: SOC 200 or 201.

330 Criminology (4 credit hours)

Survey of crime, some causal theories, and attempts at crime prevention in the United States. Prerequisite: SOC 200 or 201.

332 Juvenile Delinquency (4 credit hours)

Problems of definition and treatment of delinquency. Preparation for further study and work with delinquents. Prerequisite: SOC 200 or 201.

340 Social Organization (4 credit hours)

Theories and analysis of social organization in its historical and present context. Emphasis on the interrelationship between individuals, the family, and other institutions. Prerequisite: SOC 200 or 201.

341 Social Inequality (4 credit hours)

Structures, theories, and consequences of social inequality with special emphasis on the United States. Prerequisite: SOC 200 or 201.

342 The Demography of Human Populations (4 credit hours)

Introduction to factors influencing the structure and growth of human populations and the social consequences of population change. Patterns of fertility, mortality, and migration in today's societies are emphasized, and methods and materials used to study populations are presented. Prerequisite: SOC 200 or 201.

345 Social Change (4 credit hours)

Explanations of social change in modern societies. Emphasis on identification of sources of change, effects of change throughout society, major trends, and issues for the future. Prerequisite: SOC 200 or 201.

350 Sociology of Work (4 credit hours)

Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work. Prerequisite: SOC 200 or 201.

360 Sociology of the Family (4 credit hours)

Sociological analysis of family development over its life cycle. Involved is the relationship of the family to society and the individual. Topics include courtship, marriage, parenthood, adulthood, and aging. Prerequisite: SOC 200 or 201.

361 Religion and Society (4 credit hours)

(Also listed as REL 361.) General treatment of religion as a social institution examining the influence of religious ideas and organizations on other social institutions, and the influence of society on religion. Prerequisite: Introductory courses in sociology or religion.

363 Sociology of Education (4 credit hours)

School as a social institution. Internal and external influences, structure of the school social system, and sociological issues affecting the school such as social class factors and equality of educational opportunity. Prerequisite: SOC 200 or 201.
380 Individual and Society (4 credit hours)
Interaction between society and the individual, forms and content of social relationships, and socialization as a social process. Emphasis in the basic writings of G. H. Mead and others. Prerequisite: SOC 200 or 201.

390 Directed Readings in Sociology
(2 to 4 credit hours)
Readings in areas of specialized interest. May be taken for letter grade or pass/unsatisfactory.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of sociology. Topics vary Prerequisite: SOC 200 or 201.

401 Selected Topics in Theory-Methods:
(4 credit hours)
Variable content. Specific topics will be announced in the schedule when course is offered. Prerequisite: SOC 200 or 201.

405 Seminar in SOC Theory (4 credit hours)
An in-depth analysis of selected topics in sociological theory for advanced students, especially those contemplating graduate study. The topic selected varies from year to year.

406 Applications of Research Methods (4 credit hours)
Advanced course in social research techniques that provides students the opportunity to design and carry out a full-scale research project within a seminar-like class setting. Students are encouraged to select research problems related to their major interest areas. Prerequisite: SOC 306.

420 Sociology of Sexual Behavior (4 credit hours)
Course examines alternative sexual lifestyles and behaviors. Employing the concepts of cultural relativity and ethnocentrism, students learn how sexual relationships are perceived and responded to in contemporary American society. Prerequisite: SOC 200.

422 The Sociology of the Courts, Law and Justice
(4 credit hours)
Students will critically examine the process, structure, and effects of the U.S. Court system. Special attention to issues of race, class, and other social factors that affect justice in society. Prerequisite: SOC 320, SOC 340.

432 Penology (4 credit hours)
Historical development and critical assessment of penal institutions. Field visits to selected institutions. Prerequisite: SOC 330 or SOC 332 or consent of instructor.

433 Internship in Corrections and Family
(4 credit hours)
Supervised field experience in corrections and family agencies (probation, parole, jail, juvenile, adult, and aging). Requires readings, a log, progress reports, and a paper synthesizing readings and field experience.

439 Selected Topics in Problems/Deviance
(4 credit hours)
Topics vary. Prerequisite: SOC 200 or 201.

440 Bureaucracy and Bureaucrats (4 credit hours)
Examination of the nature of modern bureaucratic organizations, their place in society, and consequences of bureaucratic forms for their members and society. Prerequisite: SOC 200 or 201.

441 Industrial Sociology (4 credit hours)
Cross-cultural analysis of industrialization: organization of relationships within industrial social groups. Prerequisite: SOC 200 or 201.

442 Race and Minority Relations (4 credit hours)
Study of intergroup, racial, and ethnic group relations including the processes and consequences of conflict, prejudice, and discrimination. Prerequisite: SOC 200 or 201.

443 South Africa and Apartheid (4 credit hours)
An introduction to the social history of South Africa and the system of apartheid. Considers several scenarios regarding the future of South Africa and invites reflection upon past and future U.S. involvement in that country. Prerequisite: SOC 200.

444 Urban Sociology (4 credit hours)
Deals with the role of cities in past and present societies, the social and cultural implications of urban living, and special problems associated with city life. Prerequisite: SOC 200 or 201.

446 Neighborhoods and Communities (4 credit hours)
What part do the community and the neighborhood play in the social life of modern societies? What makes a good neighborhood, a good community? These and other questions are addressed. Prerequisite: SOC 200 or 201.

457 Policing in Society (4 credit hours)
This course will discuss the history and theories of policing while reviewing the role and function of the police. Prerequisite: SOC 300, SOC 306.

459 Explaining Crime: From Beccaria to Thornberry
(4 credit hours)
Objective is to provide students with a sound understanding of theories of crime and how they operate within society as part of our understanding of the criminal justice system. Prerequisite: SOC 300, SOC 306.

460 The Social Politics of African American Women
(4 credit hours)
This class examines Black Feminism/Womanist Identity from a historical and contemporary perspective and highlights changes within the African American family. Seminar format will be utilized for students to discuss class readings. Prerequisite: SOC 310, 442.
461 Medical Sociology (4 credit hours)
Social dimension of health and illness. Consideration of the patterns of disease, along with the organization, provision, and delivery of medical services. Prerequisite: SOC 200 or 201.

462 Social Gerontology (4 credit hours)
(Also listed as SW 462.) Study of social aspects of aging, the needs of the aging population, and society's response to these needs. Prerequisite: Permission of instructor, or School of Nursing students, or admission to the Gerontology Certificate Program.

463 Social Gerontology II (4 credit hours)
Continuation of social gerontology. Explores in-depth concepts and issues related to aging. Prerequisite: SOC 462 or consent of instructor.

479 Selected Topics in Social Institutions (4 credit hours)
Variable content. Specific topics will be announced in the schedule when course is offered. Prerequisite: SOC 200 or 201.

481 Sociology of Small Groups (4 credit hours)
Study of face-to-face interaction with emphasis on both intergroup and intragroup structure and processes. Prerequisite: SOC 200 or 201.

489 Selected Topics in Social Interaction (4 credit hours)
Titles vary. Prerequisite: 9 hours sociology.

490 Independent Research in Sociology (2 to 4 credit hours)
Field project in an area of interest. May be taken for letter grade or pass/unsatisfactory.

Spanish/SPN

101 First Year Spanish (4 credit hours)
Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing. Prerequisite: None.

102 First Year Spanish (4 credit hours)
Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing. Prerequisite: SPN 101 or department permission.

103 First Year Spanish (4 credit hours)
Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing. Prerequisite: SPN 102 or department permission.

111 Essentials of Spanish (4 credit hours)
Introduction to Spanish with an emphasis on speaking the language.

150 Spanish Grammar Review (4 credit hours)
A thorough review of Spanish grammar with an emphasis on oral practice.

201 Second Year Spanish (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: SPN 103 or department permission.

202 Second Year Spanish (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: SPN 201 or department permission.

203 Second Year Spanish (4 credit hours)
Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: SPN 202 or equivalent.

311 Spanish Conversation (4 credit hours)
Practice in oral use of Spanish emphasizing the culture of the Hispanic world. Prerequisite: SPN 203 or equivalent.

312 Spanish Conversation (4 credit hours)
Practice in oral use of Spanish emphasizing the culture of the Hispanic world. Prerequisite: SPN 203 or equivalent.

321 Spanish Composition (4 credit hours)
Oral and written composition in Spanish; translations from English into Spanish. Prerequisite: SPN 203 or department permission.

322 Spanish Composition (4 credit hours)
Oral and written composition in Spanish; translations from English into Spanish. Prerequisite: SPN 203 or equivalent.

323 Spanish Composition (4 credit hours)
Oral and written composition in Spanish; translations from English into Spanish. Further grammar study. Prerequisite: SPN 203 or equivalent.

325 Business Spanish (4 credit hours)
An introduction to the language of business Spanish with insight into Spain and Latin America within the global economy. Prerequisite: SPN 203.

331 Survey of Spanish Literature (4 credit hours)
Historical survey of Spanish literature. From the beginning to romanticism. Prerequisite: SPN 312 and 322 or permission of instructor.

332 Survey of Spanish Literature (4 credit hours)
Historical survey of Spanish literature. From romanticism to the present. Prerequisite: SPN 312 and 322 or permission of instructor.

333 Survey of Spanish-American Literature (4 credit hours)
Reading of prose, poetry, and plays by Spanish-American writers. From pre-Columbian times to romanticism. Prerequisite: SPN 312 and 322 or permission of instructor.
334 Survey of Spanish-American Literature (4 credit hours)
Reading of prose, poetry, and plays by Spanish-American writers. From romanticism to the present. Prerequisite: SPN 312 and 322 or permission of instructor.

361 Spanish Phonetics (2 credit hours)
Study of the vowel and consonant sound system through phonetic method; intonation. Prerequisite: SPN 312 and 322 or permission of instructor.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approaches, and topics in the field of Spanish. Topics vary.

401 The Spanish Picaresque Novel (4 credit hours)
Intensive reading of such works as Lazarillo de Tormes, Vida del Buscon, and Guzman de Alfarache. Prerequisite: SPN 302 or consent of instructor.

402 The Spanish Novel of the Nineteenth Century (4 credit hours)
19th century prose work by Galdos and others. Prerequisite: SPN 302 or consent of instructor.

403 Advanced Studies: Language and Civilization (4 credit hours)
Topics vary. Conducted in Spanish. Prerequisite: SPN 312 and 322 or instructor permission.

411 Golden Age Drama (4 credit hours)
Intensive readings of dramas by playwrights of the 16th and 17th centuries. Prerequisite: SPN 302 or equivalent.

412 Modern Drama (4 credit hours)
Intensive readings of dramas by playwrights of the 19th and 20th centuries. Prerequisite: SPN 322, SPN 332 or consent of instructor.

421 Invensive Study of Don Quixote, Part I (4 credit hours)
Intensive study of the works of Cervantes including Don Quixote, novelas ejemplares, entremeses, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time. Prerequisite: SPN 302 or consent of instructor.

422 Cervantes (4 credit hours)
Intensive study of the works of Cervantes including Don Quixote, novelas ejemplares, entremeses, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time. Prerequisite: SPN 421; SPN 302 or consent of instructor.

431 Seminar in Spanish Literature (4 credit hours)
Intensive study of selected topics in peninsular literature. Background lectures, oral reports, and discussions. Topics vary. Prerequisite: SPN 332 or consent of instructor.

432 Seminar in Spanish American Literature (4 credit hours)
Intensive study of selected topics in Spanish-American literature. Background lectures, oral reports, and discussions. Topics vary. Prerequisite: SPN 332 or permission of instructor.

441 Contemporary Spanish Literature (4 credit hours)
Readings in the novel, poetry, and drama of major Spanish writers in the post-Civil War period. Prerequisite: SPN 302 or consent of instructor.

442 Contemporary Latin-American Literature (4 credit hours)
Readings in the novels, poetry, and drama of various Latin-American writers from the late 1930s to the present. Prerequisite: SPN 332 or permission of instructor.

450 Undergraduate Research in Spanish (1 to 4 credit hours)
Topics vary.

462 The Generation of 1898 (4 credit hours)
Novel, poetry, and theatre of Unamuno, Baroja, and others. Prerequisite: SPN 302 or consent of instructor.

481 Independent Reading for the Advanced Student (4 credit hours)
Topics vary.

Statistics/STT

160 Statistical Concepts (5 credit hours)
A non-technical introduction to fundamental ideas in statistics. Statistical ideas are introduced through examples, showing how statistics has helped solve major problems in various fields. Prerequisite: MTH 126 or MTH 127 or equivalent or at least Level 4 on Math Placement Exam.

264 Elementary Statistics I (4 credit hours)
Numerical and graphical methods for finding and summarizing important features of data. Principles of designing experiments for collecting data. Introduction to probability. Use of statistical computing package to apply methods and illustrate concepts. Prerequisite: MTH 126 or 127 or equivalent or at least Level 4 on WSU Math Placement Test.

265 Elementary Statistics II (4 credit hours)
Confidence intervals and hypothesis testing introduction. Applications to means, proportions, two-sample comparisons, contingency tables, linear regression, and analysis of variance. Use of statistical computing package to apply methods to data sets. Prerequisite: STT 264.
342 Probability and Statistics for Middle School Teachers (4 credit hours)
Probability and statistical methods applied to real problems. Scientific method of investigation. Data collection, organization, display, and analysis. Empirical and axiomatic probability, simulation, variation, sampling, expected values, and statistical inference. Probability and uncertainty. For early and middle childhood and mathematics education majors only. Prerequisite: MTH 128 or MTH 129 or equivalent or at least Level 5 on the Math Placement Test and MTH 243.

360 Applied Statistics I (4 credit hours)
Introduction to probability, random variables and their expectations, some commonly used discrete and continuous distributions, concept of random sampling and sampling distributions. Use of computer software packages for simulating, summarizing, and displaying data. Prerequisite: MTH 229 and MTH 230, or equivalent.

361 Applied Statistics II (4 credit hours)
Introduction to statistics, standard statistical methods for estimation of parameters and hypothesis testing, introduction to regression analysis and analysis of variance techniques, exposure to data analysis using packaged computer programs. Prerequisite: STT 360.

363 Engineering Statistics (3 credit hours)
Introduction to probability, distributions, and statistical methods; using calculus to develop the necessary theory. Prerequisite: MTH 232.

367 Introduction to SAS (2 credit hours)
Introduction to the use of the statistical analysis system, a statistical computing package widely used in industry, government, and academia. Prerequisite: STT 265 or equivalent statistical background.

386 Independent Reading in Statistics and Probability (1 to 5 credit hours)
Topics vary

396 Topics in Statistics and Probability (1 to 5 credit hours)
Topics vary. May be taken for letter grade or pass/unsatisfactory.

401 Nonparametric Methods (4 credit hours)
Distribution-free estimation and hypothesis testing procedures. Includes methods for use in one- and two-sample location and dispersion problems, nonparametric alternatives to ANOVA and regression, goodness-of-fit tests, measures of association, and tests for randomness. Prerequisite: STT 466 or equivalent.

411 Applied Time Series (4 credit hours)
Stochastic models for discrete time series in the time-domain, moving average processes, autoregressive processes, model identification, parameter estimation, and forecasting. Statistical computing software packages are used. Prerequisite: STT 361/561 or permission of instructor.

424 Statistical Quality Control and Improvement (4 credit hours)
Statistical process control for attributes and variables data; probability distributions, sampling plans, control charts, statistical control, process capability, process improvement, tolerance intervals, evolutionary operation, and applications. Prerequisite: STT 361 or 363 or permission of instructor.

426 Reliability and Life Data (4 credit hours)
Presentation of important models and methods, and analysis of lifetime and survival data. Prerequisite: STT 361 or equivalent.

428 Queueing Theory (4 credit hours)
Stochastic concept of a queuing process is developed. Theories and applications of single and many server queues are presented. Emphasis on applications in engineering and computer science programs. Prerequisite: STT 360 or STT 363 or equivalent.

430 Biostatistics (4 credit hours)
The statistical methods suitable for the collection, analysis, and interpretation of the temporal and spatial data arising in environmental studies are discussed. Computer packages for the data analysis are introduced. Prerequisite: STT 265 or equivalent or instructor's permission.

461 Theory of Statistics I (4 credit hours)
Probability models, density and distribution functions, expectation, marginal and conditional distributions, stochastic independence, moment generating functions, central limit theorem, decision theory, and estimation of parameters. Prerequisite: STT 360, MTH 232; or permission of instructor.

462 Theory of Statistics II (4 credit hours)
Hypothesis testing, linear model, and nonparametric methods. Prerequisite: STT 361 and STT 461; or instructor permission.

464 Computational Statistics (4 credit hours)
Classical statistical techniques for analysis and interpretation of research data with emphasis on biomedical applications. Includes descriptive statistics, distributions, experimental design, ANOVA, regression, correlation, contingency table analysis, and nonparametric procedures. Prerequisite: STT 360 and STT 361 or equivalent. Must have a grade of 'B' or better on both courses or instructor's permission.
466 Statistical Methods I (4 credit hours)
Interpretation of research data with emphasis on the use of packaged computer routines and the use of linear models. Includes basic probability and statistics review; simple, multiple, and polynomial regression; indicator variables in regression; and multiple and partial correlation. Nonparametric methods; analysis of categorical data; and exploratory data analysis. Prerequisite: MTH 253 or 355, and STT 265 or STT 361 or equivalent.

467 Statistical Methods II (4 credit hours)
Continuation of STT 466. Includes analysis of variance, multiple comparisons, factorial experiments, analysis of covariance, and randomized block designs. Exploratory data analysis. Prerequisite: STT 466.

469 Introduction to Experimental Design (4 credit hours)
Techniques of blocking, randomization, replication, and factorial design. Topics include complete and incomplete block designs, confounding, fractional factorial designs, split-plots, response surface methods, parameter design, and hierarchical designs. Statistical software used extensively. Prerequisite: STT 467 or permission of instructor.

486 Independent Reading in Statistics and Probability (1 to 5 credit hours)
Independent study in statistics and probability.

492 Undergraduate Statistics Seminar (3 credit hours)
Detailed study of a single statistical topic or problem in practice of statistics chosen by student with approval of the instructor. The student will present the results of study in an expository paper. Seminars/Independent study. Limited to 10 students. Mathematics majors with statistics option only. Prerequisite: STT 462 and 467, or senior standing and department permission.

496 Topics in Statistics and Probability (1 to 5 credit hours)
Topics in statistics and probability.

Social Work/SW

270 Social Work as a Profession (4 credit hours)
Introduction to the profession: historical development, value base, social systems perspective on social problems, and major fields of practice. Includes required knowledge, skills, and values; critical thinking; problem solving; self-awareness; and appreciation of racial, ethnic, and cultural pluralism.

271 Social Welfare and Social Services (4 credit hours)
Study of social welfare and social services in society; introduction to generalist social work practice; continued career testing. Agency-based field project required. Prerequisite: SW 270.

272 Cultural Competence in a Diverse World (4 credit hours)
Introduction to the knowledge, skills and process required to develop cultural competency. Content covers the historical development of discrimination and the need for cultural competency within the U.S. and international communities.

291 Descriptive Statistics (4 credit hours)
Discusses descriptive statistical methods for social science research. Includes theory and application of frequency distributions, graphic representations, measures of central tendency and variability, Statistical Package for Social Sciences. Introduces probability and measures of association. Prerequisite: MTH 102 or DEV 095.

320 Workshops in Current Problems (1 to 6 credit hours)
Intensive study of a particular problem area, utilizing professionally qualified personnel from academia and the practice community. Specific subtitles to be added with individual workshops.

375 Human Behavior in Social Functioning (4 credit hours)
Analysis of human behavior in assessment of social functioning as it relates to social work intervention. Includes ego psychology, social-systems theory, role theory, and learning theory. Prerequisite: SW 271.

378 Basic Practice Theory (4 credit hours)
Foundation sequence of generic social work practice theory. Problem assessment, data collecting, data analysis, intervention methods, and evaluation procedures. Introduction to task-centered approach. Prerequisite: SW 271.

389 Seminar on Special Problems in Social Work Practice (2 to 4 credit hours)
Selected topics related to current issues in social work practice; readings, research, and discussion.

394 Readings in Social Work (2 to 4 credit hours)
May be taken for letter grade or pass/unsatisfactory.

399 Studies in Selected Subjects (1 to 4 credit hours)
Problems, approached, and topics in the field of social work. Topics vary. May be taken for letter grade or pass/unsatisfactory.

462 Social Gerontology I (4 credit hours)
(Also listed as SOC 462.) Study of social aspects of aging, the needs of the aging population, and society’s response to these needs. Prerequisite: Permission of instructor, or School of Nursing Students, or admission to the Gerontology Certificate Program.

463 Social Gerontology II (4 credit hours)
Continuation of social gerontology. Prerequisite: SW 462 or equivalent Experience.
338 Course Descriptions

464 Racial and Ethnic Awareness in Human Services (4 credit hours)
  Impact of racism and ethnicity on the delivery of human services. Examination of interpersonal
  relationships and institutional policies and procedures; provides opportunity to develop
  strategies for change at both levels. Prerequisite: SW 270, 271, and 380.

470 Social Welfare Policy (4 credit hours)
  Development, status, and effectiveness of social welfare policies. Application of social work values
  and knowledge to current policies, programs, and services. Prerequisite: SW 375, 380, and 490.

473 Child Welfare (4 credit hours)
  Framework for categorizing child welfare problems. Historical and current examination of
  legislation, policies, programs, and services to address child welfare needs including the role of
  the child welfare worker. Prerequisite: SW 380.

477 PROB SEM/Welf Policy & SERV (1 to 4 credit hours)
  Selected topics related to the operation of the social welfare system in America; issues, trends
  and problems.

480 Gerontology Practicum (3 to 4 credit hours)
  Supervised learning under direction of faculty
  and agency staff. 10 weeks/20 hours per week, or 20 weeks/10 hours per week. Prerequisite:
  SW/SOC 462.

481 Generalist Practice with Individuals (4 credit hours)
  In-depth study of generalist social work practice
  theory for the enhancement of social functioning
  of individuals. Prerequisite: SW 375, 380 and 490.

482 Generalist Practice with Groups (4 credit hours)
  In-depth study of generalist social work practice
  theory for the enhancement of social functioning
  of small groups. Prerequisite: SW 375, 380 and 490.

483 Generalist Practice with Families (4 credit hours)
  In-depth study of generalist social work practice
  theory for the enhancement of family social
  functioning. Prerequisite: SW 375, 380 and 490.

484 Generalist Practice with Organizations and Communities (4 credit hours)
  In-depth study of generalist social work practice
  theory for the enhancement of social functioning
  in social welfare organizations and communities
  Prerequisite: SW 375, 380 and 490.

487 SOC Work Practicum I (4 to 12 credit hours)
  Application of theory to practice in agency
  settings. Individual supervised learning
  experiences and on-site seminars under direction
  of instructor and agency staff.

490 Research Methods in Social Work I (4 credit hours)
  Sequential study of evaluative research design
  methodology. Development of criteria for the
  selection and intelligent use of research reports.
  Evaluation of selected research reports for
  relevance to social work practice. May be taken
  for letter grade or pass/unsatisfactory. Prerequisite:
  SW 271.

491 Research Methods in Social Work II (4 credit hours)
  Sequential study of evaluative research design
  methodology. Development of criteria for the
  selection and intelligent use of research reports.
  Evaluation of selected research reports for
  relevance to social work practice. May be taken
  for letter grade or pass/unsatisfactory. Prerequisite:
  SW 490.

494 Independent Research in Social Work (2 to 4 credit hours)
  May be taken for letter grade or pass/
  unsatisfactory.

Theatre Arts/TH

102 Introduction to Technical Theatre (3 credit hours)
  General survey of technical aspects of theatre
  including its personnel and organization.

103 Vocal Production and IPA for the Actor (2 credit hours)
  For acting majors only. Application of the
  International Phonetic Alphabet and understanding
  the physiological structure of the vocal
  mechanism.

104 IPA for the Singing Actor (1 credit hour)
  Basic training in the International Phonetic
  Alphabet for musical theatre acting majors.

105 Vocal Production and IPA (1 credit hour)
  Departmental majors only. Basics of singing and
  application of International Phonetic Alphabet.

106 Basic Music Theory and Piano Skills for Actors I (3 credit hours)
  Introduces basics of rhythm, melody, sight-
  singing, and musical theatre piano in a group class.

107 Basic Music Theory and Piano Skills for Actors II (3 credit hours)
  Second term of course covering basics of rhythm,
  melody, sight-singing, and musical theatre piano in
  a group class.

108 Basic Music Theory and Piano Skills for Actors III (3 credit hours)
  Third term of course covering basics of rhythm,
  melody, sight-singing, and musical theatre piano in
  a group class.

110 Theatre MGMT Activities (1 to 3 credit hours)
  Participation in university theatre productions;
  specific assignments determined at initial meeting.
120 Make-up for the Theatre (2 credit hours)
Theory and practice of stage makeup.

124 Theatre Graphics I: Fundamentals (2 credit hours)
Drawing for the theatrical designer with emphasis on fundamentals.

125 Theatre Graphics I: Media (2 credit hours)
Drawing for the theatrical designer with emphasis on media.

126 Theatre Graphics I-Concepts (2 credit hours)
Drawing for the theatrical designer with emphasis on concepts. Prerequisite: TH 125 or permission of instructor.

144 Acting I (3 credit hours)
Training imagination, mind, body, and voice of the beginning actor.

145 Acting I (3 credit hours)
Training imagination, mind, body, and voice of the beginning actor.

146 Acting I (3 credit hours)
Training imagination, mind, body, and voice of the beginning actor. Prerequisite: TH 145.

147 Acting Aesthetics (2 credit hours)
Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only.

148 Acting Aesthetics (2 credit hours)
Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only.

149 Acting Aesthetics (2 credit hours)
Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only. Prerequisite: TH 148.

157 Singing-Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

158 Singing-Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

159 Singing for the Musical Theatre Actor (2 credit hours)
Private singing lessons for musical theatre acting majors.

203 Contemporary Theatre (3 credit hours)
Critical study of contemporary theatre and its standards and production methods. Attendance at several current productions required. Theatre tickets must be purchased by the student. Prerequisite: TH 101.

214 Theatre in Western Culture (4 credit hours)
Introduction to the many arts of the theatre including the roles of the actor, playwright, director, designer, critic, and audience. Selected scripts from representative historical periods are examined as an aid in understanding the theatrical event.

220 Stagecraft (3 credit hours)
Introduction to theory and practice of theatre technology with study of the materials and techniques involved. Includes practice in construction, mounting, and running of productions.

224 Theatre Graphics II: Drafting (3 credit hours)
Introduction to and practice with the basic graphics tools, materials, and techniques used in drafting designs for the theatre.

225 Theatre Graphics II: Color (3 credit hours)
Introduction to and practice with the basic color theories, materials, and techniques used in designing for the theatre.

226 Theatre Graphics II-Model Making (3 credit hours)
Introduction to and practice with the basic tools, materials, and techniques of scale model building for the theatre.

227 Stage Lighting Technology (3 credit hours)
Mechanics of stage lighting including behavior of light, lighting instruments, and control systems. Includes study of the functions and duties of the stage lighting technician. Prerequisite: TH 102 and permission of instructor.

228 Scenery Technology (3 credit hours)
In-depth study of scenery technology and its techniques. Involves the study of standard scenery construction, metalworking, and the application and details of stage rigging and its equipment. For B.F.A. technology majors only.

229 Costume Technology (3 credit hours)
Introduction to the basics of theatre costume technology. Includes fundamentals of construction, aging, dyeing, and distressing of costumes. Prerequisite: TH 102 and permission of instructor.

240 Movement for the Actor I (2 credit hours)
Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. Basic tumbling and pantomime techniques are introduced. For sophomore acting and acting-musical theatre majors only.

241 Movement for the Actor I (2 credit hours)
Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. Basic tumbling and pantomime techniques are introduced. For sophomore acting and acting-musical theatre majors only.
242 Movement for the Actor I (2 credit hours)
Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. Basic tumbling and pantomime techniques are introduced. For sophomore acting and acting musical theatre majors only.

244 Acting II (3 credit hours)
Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter.

245 Acting II (3 credit hours)
Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter.

246 Acting II (3 credit hours)
Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter. Prerequisite: TH 245.

250 Script Analysis (4 credit hours)
This course offers students a variety of analytical methods for exploring a range of theatrical texts. Primary focus is on thematic, structural and formal aspects of analysis.

254 Theatre Speech I (2 credit hours)
Speech training focusing on expansion and strengthening of the actor’s voice. Emphasis on clear articulation and proper enunciation of the phonemes of American standard English.

255 Theatre Speech I (2 credit hours)
Speech training focusing on expansion and strengthening of the actor’s voice. Emphasis on clear articulation and proper enunciation of the phonemes of American standard English. Prerequisite: TH 255.

257 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

258 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

259 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre majors.

301 Introduction to Theatrical Design (3 credit hours)
Exploration of the collaborative process between director and designers, which results in a specific visual approach to a production. Emphasis on designer progression from script analysis and research to realization of the design. Prerequisite: TH 214 or permission of instructor.

304 Dramatic Writing (4 credit hours)
(Also listed as ENG 304.) Theory and practice of techniques of dramatic writing emphasizing writing of original plays. Prerequisite: ENG 111, 112 or permission of the instructor.

311 Oral Reading of Drama (3 credit hours)
Analysis and practice in reading from plays and dramatic poetry, reader’s theatre, performance.

324 Lighting Design (3 credit hours)
Study of lighting design and the behavior of light as an expressive medium of theatrical design. Includes project work with an emphasis on professional technique.

325 Set Design (3 credit hours)
Study of scenic design and the dynamics of stage space use. Includes project design work with an emphasis on professional technique and period design.

326 Costume Design (3 credit hours)
Study of costume design for the theatre. Includes project design work with an emphasis on professional technique and period design.

328 Decorative Style Through the Ages (3 credit hours)
Development of dominant characteristics of the history of architecture, furniture, and ornamental design and how they relate to abstract elements of taste, design, composition, and color.

329 Costume History (3 credit hours)
Costume and fashion from prehistoric to modern times. Overview of the history of costume and fashion and how it relates to theatre.

337 MUS Theatre Performance (3 credit hours)
Scene study class designed to integrate acting training with music and dance skills using major texts from musical theatre.

338 MUS Theatre Performance (3 credit hours)
Scene study class designed to integrate acting training with music and dance skills using major texts from musical theatre.

339 MUS Theatre Performance (3 credit hours)
Scene study class designed to integrate acting training with music and dance skills using major texts from musical theatre.

340 Movement for Actor II (2 credit hours)
Basic movement skills such as period movement, dancing, and stage combat as they relate to performing; designed to give the performer total perception and to discover the physical and psychological stimulus for movement. For studio acting majors only.

341 Movement for Actor II (2 credit hours)
Basic movement skills such as period movement, dancing, and stage combat as they relate to performing; designed to give the performer total perception and to discover the physical and psychological stimulus for movement. For studio acting majors only.
342 Movement for Actor II (2 credit hours)
Basic movement skills such as period movement, dancing, and stage combat as they relate to performing; designed to give the performer total perception and to discover the physical and psychological stimulus for movement. For studio acting majors only. Prerequisite: TH 341.

344 Acting III (3 credit hours)
First year of Professional Actor Training program. Must be taken in sequence. All students must receive a grade of “C” or better to continue in sequence.

345 Acting III (3 credit hours)
First year of Professional Actor Training program. Must be taken in sequence. All students must receive a grade of “C” or better to continue in sequence.

346 Acting III (3 credit hours)
First year of Professional Actor Training program. Must be taken in sequence. All students must receive a grade of “C” or better to continue in sequence. Prerequisite: TH 345.

347 One Person Show (3 credit hours)
Provides a foundation for the senior thesis project. Elements necessary in the development of a one person show will be taught, concluding in a solo performance. Prerequisite: Must complete all sophomore & junior major courses up to this point.

350 Directing (4 credit hours)
Problems of script selection and interpretation, casting, rehearsing, and performance. Techniques of composition and movement; the proscenium stage and open stage. Preparation of the prompt book.

351 Stage Management (3 credit hours)
This course develops the skills required of the working stage manager: through lecture, discussion, and application, students work problems of stage management through to practical solutions. Department permission required. Prerequisite: TH 214.

354 Theatre Speech II (2 credit hours)
Speech for the classical stage. Emphasis on unique demands of communication of dramatic verse text through exploration of Shakespeare, Moliere, and Restoration playwrights. Particular attention given to diction or the art of emphasis to illuminate poetic language.

355 Theatre Speech II (2 credit hours)
Speech for the classical stage. Emphasis on unique demands of communication of dramatic verse text through exploration of Shakespeare, Moliere, and Restoration playwrights. Particular attention given to diction or the art of emphasis to illuminate poetic language.

356 Theatre Speech II (2 credit hours)
Speech for the classical stage. Emphasis on unique demands of communication of dramatic verse text through exploration of Shakespeare, Moliere, and Restoration playwrights. Particular attention given to diction or the art of emphasis to illuminate poetic language.

357 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

358 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

359 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

360 History of the Theatre I (3 credit hours)
Survey of the history and development of theatrical production from the Greeks through the renaissance and including primitive forms both ancient and contemporary. Emphasis on the history of play production rather than on literature. Prerequisite: TH 101.

361 History of the Theatre II (3 credit hours)
Survey of the history and development of theatrical production from the 17th century through the present day. Emphasis on the history of play production. Prerequisite: TH 101.

362 Style and Concept (3 credit hours)
An investigation of the development of production concept in terms of visual and intellectual style choices in performance, interpretation and design.

365 Theory and Criticism (3 credit hours)
Changing concepts of dramatic structure and criticism through comparative examination of works of selected playwrights and critics. Chief theories of dramatic production in relation to aesthetic principles.

366 Theatre Repertoire I (3 credit hours)
Special problems of analysis, acting, and staging plays from various periods of theatre history are explored from a production point of view. From Aeschylus to Jonson.

367 Theatre Repertoire II (3 credit hours)
Special problems of analysis, acting, and staging plays from various periods of theatre history are explored from a production point of view. From Beaumont to Chekhov.

368 Theatre Repertoire III (3 credit hours)
Special problems of analysis, acting, and staging plays from various periods of theatre history are explored from a production point of view. From Shaw to Albee.

370 Creative Dramatics (3 credit hours)
Study of the nature of creativity in children and of the techniques that develop sensitivity, bodily freedom, characterization, and impression.
Course Descriptions

371 Musical Theatre Score and Libretto Analysis
(2 credit hours)
Examines a variety of complete texts from the musical theatre to develop music and text analysis skills for acting, directing, or choreography.

372 Musical Theatre History and Literature
(3 credit hours)
Survey of the history and literature of the musical theatre from opera and operetta through contemporary Broadway productions. Examination of the various popular influences on the form. Includes viewing film and videotaped productions. Prerequisite: TH 371.

373 Musical Theatre History and Literature II
(3 credit hours)
Survey of the history and literature of the musical theatre from opera and operetta through contemporary Broadway productions. Examination of the various popular influences on the form. Includes viewing film and videotaped productions.

375 Theatre Management (3 credit hours)
Operational procedures for school, community, and professional theatre. Includes problems of organization, personnel, budgeting, purchasing, accounting, ticket sales, publicity, promotion, and house management. Prerequisite: TH 101.

380 Theatre History and Literature I (3 credit hours)
Exploration of theatre through French Neoclassicism, within social and historical contexts. Emphasis on how the plays from each period were produced and how they affected subsequent theatrical practice.

381 Theatre History and Literature II (3 credit hours)
Exploration of theatre from the Restoration Period through post-WW II European theatre, within social and historical contexts. Emphasis on production practice and its effect on subsequent periods. Prerequisite: Theatre History and Literature I.

382 Theatre History and Literature III
(3 credit hours)
Exploration of theatre from post-WWII to the present, within social and historical contexts. Emphasis on production practice and its effect on subsequent periods. Prerequisite: Theatre History and Literature I and II.

390 Projects in Theatre (2 to 4 credit hours)
Advanced individual work.

399 Studies in Selected Subjects (1 to 4 credit hours)
Course of variable content dealing with problems, approaches, and topics in the field of theatre.

410 Stage Management Practicum
(1 to 3 credit hours)
Participation in university theatre stage management activities. Specific assignments determined at initial meeting.

412 Advanced Stage Makeup (3 credit hours)
Design and application of the advanced makeup techniques of prosthetics, hair ventilation and wig making.

413 The Acting Profession (3 credit hours)
Provides intensive study and practical projects to prepare for a professional acting career. Agents, unions, auditions, markets (NYC, L.A., Chicago, etc.), and marketing tools (headshots, resumes, etc.) will be covered.

424 Advanced Design Studio (6 credit hours)
Intensive study of theatrical costumes, scenery, and lighting with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the students' area of design.

425 Advanced Design Studio (6 credit hours)
Intensive study of theatrical costumes, scenery, and lighting with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the students' area of design.

426 Advanced Design Studio (6 credit hours)
Intensive study of theatrical costumes, scenery, and lighting with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the students' area of design.

427 Advanced Stagecraft (3 credit hours)
Advanced study of stagecraft practices including complex scenery layout, rigging, power drive systems, and materials. For B.F.A. design/technology majors only.

428 Advanced Costume Technology (3 credit hours)
Advanced techniques of costume technology with emphasis on developing patterns, cutting and draping and drafting.

429 Advanced Theatre Crafts (3 credit hours)
Lecture/workshop class with variable topics including property and furniture building, scenic painting, welding, draping, etc. Topics vary.

437 Musical Theatre Studies (3 credit hours)
Study of the performance problems associated with a selected composer or genre. Topics vary. Prerequisite: TH 337, 338, 339.

438 Musical Theatre Thesis Rehearsal
(3 credit hours)
Preparation of the musical theatre thesis including the technical and production needs for the special thesis production.

439 Musical Theatre Thesis (3 credit hours)
Performance(s) of specially created theatre piece utilizing all musical theatre emphasis majors. This performance may serve as a showcase for theatrical agents and professional casting personnel.
440 Movement for Actor III (2 credit hours)
Visualizing techniques along with specific analysis of the ideas of LeCoq, Marceau, Alexander, Davis, and others. For B.F.A. studio acting majors only.

441 Movement for Actor III (2 credit hours)
Visualizing techniques along with specific analysis of the ideas of LeCoq, Marceau, Alexander, Davis, and others. For B.F.A. studio acting majors only.

442 Movement for Actor III (2 credit hours)
Visualizing techniques along with specific analysis of the ideas of LeCoq, Marceau, Alexander, Davis, and others. For B.F.A. studio acting majors only.

444 Acting IV (3 credit hours)
Second year of Professional Actor Training program.

445 Acting IV (3 credit hours)
Second year of Professional Actor Training program

446 Acting IV (3 credit hours)
Second year of Professional Actor Training program

447 Acting Thesis Project (3 credit hours)
Intensive work on a final creative performance project. For senior acting studio majors only.
Graded pass/unsatisfactory.

448 Acting Thesis Project (3 credit hours)
Intensive work on a final creative performance project. Open only to acting studio seniors.
Prerequisite: TH 444.

450 Studies in Directing (3 credit hours)
Provides intensive study of selected aspects of directing for the theatre. Titles vary.

451 Directing Thesis Project (3 credit hours)
Original directed research culminating in a creative performance project. For B.F.A. directing majors only. Prerequisite: TH 350.

452 Directing Thesis Project (3 credit hours)
Original directed research culminating in a creative performance project. For B.F.A. directing majors only. Prerequisite: TH 352.

454 Theatre Speech III (2 credit hours)
Thorough analysis and study of sounds of foreign dialects and regional accents. Students explore transformation of their own voices. Students also learn to vary their stage voices for age and character roles.

455 Theatre Speech III (2 credit hours)
Thorough analysis and study of sounds of foreign dialects and regional accents. Students explore transformation of their own voices. Students also learn to vary their stage voices for age and character roles.

456 Theatre Speech III (2 credit hours)
Thorough analysis and study of sounds of foreign dialects and regional accents. Students explore transformation of their own voices. Students also learn to vary their stage voices for age and character roles.

457 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

458 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

459 Singing—Musical Theatre (2 credit hours)
Private singing lessons for musical theatre acting majors.

460 Studies in Theatre History (3 credit hours)
Courses offered under this title provide an intensive study of a selected aspect of theatre history. Exact title announced each time the course is offered.

470 Studies in Child Drama (3 credit hours)
Courses offered under this title provide an intensive study of a selected aspect of child drama. Exact title announced each time the course is offered. Prerequisite: TH 101 or 370 or consent of instructor.

495 Workshop in Theatre: Summer Theatre (3 to 12 credit hours)
Intensive study of special topics or problems, or intensive experience in theatrical presentation according to particular needs of participants. Titles vary. Prerequisite: Junior or Senior standing.

498 Professional Theatre Internship (12 to 15 credit hours)
Placement of superior upper-division B.F.A. theatre majors in various professional theatres as management or production interns. For B.F.A. theatre majors only. Prerequisite: Junior or senior standing and B.F.A. theatre major.

University Honors/UH

101 Directed Study (1 to 4 credit hours)
Faculty-directed research or reading.

201 Studies in the Humanities (4 credit hours)
Explores the humanities comparatively, stressing similarities and differences in themes, methods, materials, theoretical constructs, and problems. Focuses on such topics as humanity and freedom or the city and the individual.

202 Studies in Social Science (4 credit hours)
Explores the social sciences comparatively, stressing similarities and differences in themes, methods, materials, theoretical constructs, and problems. Focuses on such topics as people and groups or institutions and bureaucracies.
203 Studies in the Natural Sciences (4 credit hours)
Varying topics or issues in the natural sciences approached in an interdisciplinary framework. Course permits intensive coverage of subject matter while also focusing on the interrelationships of the natural scientific disciplines. Prerequisite: Two quarters of a science lab.

400 University Honors Seminar (3 to 4 credit hours)
Emphasis on broadly interdisciplinary topics or issues. Topics vary.

Urban Studies/URS

200 Growth and Change in Urban Society (4 credit hours)
An interdisciplinary view of growth and change in urban societies around the globe. Case studies illustrate how urbanization, technology development and the administrative state intertwine and affect economic and population growth and change.

311 Introduction to Urban Affairs (4 credit hours)
Interdisciplinary introduction to general field of urban affairs. Reviews idea of the city and meaning of urban life.

316 American Urban History (4 credit hours)
Urban history in its broadest sense from the ancient world to the present, providing historical perspective to the contemporary urban-metropolitan phenomenon and exploring how and why urban civilization came to be.

317 Urban Planning I: Introduction to Urban Planning (4 credit hours)
(Also listed as GEO 317.) Examination of the development of city planning as a professional discipline. Consideration of the contributions to planning by the arts and sciences. Selected activities and functions of contemporary urban planning agencies are viewed from the perspective of current urban problems.

318 Urban Planning II: Principles of Planning (4 credit hours)
(Also listed as GEO 318.) Includes the role of planning in urban structures, and duties and responsibilities of planning commissions; process of preparing comprehensive plans; population change, the economic base, and determinants of future urban structure. Prerequisite: URS 317.

321 City Politics (4 credit hours)
(Also listed as PLS 321.) Governments and politics of metropolitan regions, government structure and functions, and interest and power relations.

345 Public Administration (4 credit hours)
(Also listed as PLS 345.) Nature and scope of public administration; administrative law; and public interest in the administrative process.

346 Public Personnel Administration (4 credit hours)
(Also listed as PLS 346.) Methods of employment, training, compensation, and employee relations in various levels of civil service. Examines organizations of public employees.

399 Studies in Selected Subjects (4 credit hours)
Problems, approaches, and topics in the field of urban affairs. Topics vary.

410 Urban Empirical Research (4 credit hours)
Introduces students to research and data collection methods used to explore and explain urban issues. Preparation course for URS 411 and students interested in empirical research. Investigates what makes research useful, valid, and ethical. Requires evaluating and developing research designs. Prerequisite: This is a prerequisite for URS 411.

411 Seminar in Urban Affairs (4 credit hours)
Includes development of a major research paper and a bibliography in urban affairs. Prerequisite: URS 311, URS 410.

412 Cities and Technology (4 credit hours)
Deals with the evolving relationship between technology and urban growth, physical form, government, and politics. Explores how “technological fixes” for complex urban problems have shaped urban development and politics.

414 Urban Fiscal Administration (4 credit hours)
Examines local fiscal institutions and introduces analytical tools for designing and evaluating fiscal policies. Reviews financial reporting and accounting, the municipal bond market, pension systems, state and local taxes, user charges, and intergovernmental relations.

415 Community Development I (4 credit hours)
Focuses on the importance, the profession, and the practice of community development. Introduces theories of community and development and studies current neighborhood programs and policies.

416 Community Development II (4 credit hours)
Examines three fundamental organizing strategies—self-help, technical assistance, and conflict—which are used to improve a community’s quality of life. The course combines classroom learning and field observation. Prerequisite: Community development is strongly recommended but not mandatory.

417 Public Sector Labor Rela (4 credit hours)
Examines collective bargaining, the negotiation process, impasse resolution, and contract and grievance administration in local government.

420 Public Safety Administration (4 credit hours)
Examines collective bargaining, the negotiation process, impasse resolution, and contract and grievance administration in local government.
423 Issues in Urban Administration (4 credit hours)
Explores issues and topics related to the administration of urban nonprofit organizations, community development agencies, and local governments. Titles vary.

424 Issues in Urban Planning (4 credit hours)
Examines various issues related to planning urban environments. Topics may include housing, funding nonprofit organizations, strategic planning, and economic development action plans.

425 Issues in Urban Development (4 credit hours)
Explores issues that impact urban development such as housing, pollution, and privatization. Emphasizes an approach for understanding the issues and formulating effective responses.

427 Urban Policy Analysis (4 credit hours)
(Also listed as PLS 427.) Study of the policy development process and its relationship to past and current urban issues. The course focuses on a current urban issue through discussion, reading, and research.

446 Public Budgeting (4 credit hours)
(Also listed as PLS 446.) Examination of the major phase of the governmental budget cycle, types of budget, budgetary reform, economic and public impact of government budgeting, decision-making process, and legislative/executive relations in budget formation and implementation.

450 Ethics in Public Service (4 credit hours)
Systematic development of ethics in public service, including individual roles and obligations, values, standards, and codes of conduct.

470 Urban Leadership (4 credit hours)
Examines the leadership role of the urban administrator in formulating programs, policies, and service delivery options. Explores topics such as managing the internal and external environments, improving productivity and effectiveness, and policy/program creation.

475 Management of Urban Nonprofit Agencies (4 credit hours)
Examines the organizational and managerial foundations of nonprofit organizations. Areas such as the nature and mission of nonprofit organizations, evaluating performance, resource development/fund-raising, and managing volunteers are explored.

490 Special Topics (1 to 4 credit hours)
Advanced study in selected topics in urban studies. Topics may include new developments in methodology or the various subfields of the discipline.

492 Urban Affairs Internship (4 credit hours)
Senior-level internship in which students work in the offices of a local public agency.

University College/UVC

100 College Study Strategies (1 credit hour)
Offers how-to advice on topics such as note taking, time management, preparing for exams, textbook skills, memory training, library usage, etc. Individual and group study/counseling offered as time permits. Graded pass/unsatisfactory. 
(Previously listed as UD 100. credit hours)

101 First Year Seminar I (2 credit hours)
Interactive presentation and discussion of college student life and adjustment issues, academic strategies, academic requirements and information, organization of the university, and career development. (Previously listed as UD 1011. credit hours)

102 First Year Seminar II (1 credit hour)
Continuation of UVC 101. Extends learning community participation. Uses students’ first quarter experience to further facilitate adjustments to college. Graded pass/unsatisfactory. Prerequisite: UVC 101.

107 Stress Management and Relaxation Techniques (2 credit hours)
Helps students learn how to manage stress better by using applications from cognitive psychology and experiential training in well established techniques. Graded pass/unsatisfactory.

110 Returning to Learning (2 credit hours)
Recommended for the nontraditional student who is beginning or reentering to college after a long absence. Topics include time management, reading for content, note taking, test taking, test anxiety, stress management, and making learning fun. Graded pass/unsatisfactory.

111 Friday Interest Group (0 credit hours)
Learning community students who participate in programs addressing unique issues my participate in Friday Interest Groups. Meeting once per week. Visions students will learn tips for success on a majority campus, for example.

Vocational Education/VOE

101 Pre-Professional Internship Experience (1 to 4 credit hours)
Students with excellent educational backgrounds work with a mentor on the job in a specific career for six weeks and with a facilitator/coordinate for career preparation and for communication, employability, leadership, technology, and writing skills, throughout the quarter. Prerequisite: Participation in an interview involving facilitator/ coordinator, liaison, counselor, business representative and optional 5th person.
**Course Descriptions**

**401 Business and Marketing Education Practicum** *(1 to 4 credit hours)*
- Designed to give the student valuable work experience in an actual marketing environment while being supervised/directed by a business or marketing educator. Graded pass/unsatisfactory.

**406 Survey of Workforce Education** *(3 credit hours)*
- An overview of the instructional programs in workforce education and their administration at the national, state, and local levels. Current legislation, school-to-work initiatives, tech prep, and trends affecting workforce programs are addressed and explored.

**407 Workforce Education: Methods & Strategies in Transition to Work** *(3 credit hours)*
- The selection, implementation, and evaluation of school-to-work transition models in organizing and managing work and community-based education programs. Topics include career information resources, curriculum materials, and trends influencing work and careers. Prerequisite: EDT 433 or equivalent.

**408 Invasive Business Education** *(3 credit hours)*
- Qualifying course for vocational intensive business education programs. Comprehensive study in developing procedures and principles in program construction, selection, improvement, implementation, and development of program guidelines. Prerequisite: EDT 433 or equivalent.

**410 Laws and Regulations for Vocational Education** *(3 credit hours)*
- An analysis and discussion of the federal and state laws as they affect the local school agency in operating vocational education programs.

**411 Workforce Classroom/Laboratory Management** *(3 credit hours)*
- Discusses strategies for selection and arrangement of learning activities in the classroom and laboratory setting, procedures for safety, handling and storage of materials and supplies, student personnel systems, records and reports, maintenance of equipment, rotation of assignments, and student evaluation.

**412 School-Community Relations** *(3 credit hours)*
- A study of the role of the vocational school in the community including vocational school publics, theories of community power structure, and the vocational school with emphasis on methods of communication.

**413 Introduction to Cooperative Education** *(3 credit hours)*
- Designed to present the basic fundamentals of establishing and operating a cooperative program following state and federal guidelines for work/study students.

**414 Teaching in a Cooperative Education Program I** *(1 to 3 credit hours)*
- A study of the methods used in the operation of programs that are vocationally cooperative, including the coordination of classroom related instruction with on-the-job experience. Includes the development and use of a variety of individualized methods of instruction as well as group procedures. Prerequisite: VOE 413.

**415 Teaching in a Cooperative Education Program II** *(1 to 3 credit hours)*
- A study of the methods used in the operation of programs that are vocationally cooperative, including the coordination of classroom related instruction with on-the-job experience. Includes the development and use of a variety of individualized methods for at-risk students who are academically, economically, or socially disadvantaged. Prerequisite: VOE 414.

**416 Teaching in a Cooperative Education Program III** *(1 to 3 credit hours)*
- A study of the methods used in the operation of programs that are vocationally cooperative, including the coordination of classroom related instruction with on-the-job experience. Includes the development of a course of study and curriculum guide appropriate for work study students. Prerequisite: VOE 415.

**417 Update Occupational Skills and Knowledge** *(1 to 8 credit hours)*
- Provides the opportunity for the student to upgrade occupational proficiency and technical knowledge through business or industrial experiences or supplemental training for the purpose of improving instruction.

**418 Historical and Philosophical Foundations of Vocational Education** *(3 credit hours)*
- Provides an introduction to the historical and philosophical antecedents to the present day vocational and technical education. It examines social influences which have affected legislation which supports vocational and technical education. Basic principles are introduced. Current trends and issues in vocational, technical, and career education are examined.

**419 Internship in Teaching Vocational Education** *(2 to 4 credit hours)*
- A review of teaching methods, observation of practicing teachers planning, and presentation skills. This course will provide the practicing teacher the opportunity to update curriculum and teaching skills. Students already employed as vocational teachers must have all other four-year provisional certification requirements completed.
421 Classroom Management in Workforce Education (3 credit hours)
Current practice and innovation in the study of discipline models and their application in the classroom. Topics include the legal implications of classroom management.

422 Supervision of Vocational Education (3 credit hours)
Development of supervisory skills in vocational education. Stresses human relations, basic management, and leadership skills in program inauguration and operations.

423 Pract for Devel Tch Ldr (3 credit hours)
Observation, supervised leadership, and administrative experiences will be offered in a variety of appropriate settings. Students will be assigned to work as interns in a school setting under the joint supervision of school and university personnel.

425 Organization and Administration for Vocational Education (3 credit hours)
Study of the organization of vocational education at the national, state, and local levels exploring the relationships existing between the various agencies. This course is a core requirement for a baccalaureate degree in vocational education.

426 Adult Vocational Education (3 credit hours)
An investigation of vocational education programs for adults, including the curriculum, special methods, and the development of curriculum materials suitable to such programs.

431 Evaluation of Student Performance in Workforce EDUC A (3 credit hours)
Evaluation of student learning and performance including forms of measurement and interpretation of data. Prerequisite: Vocational teaching or permission of instructor.

451 Introduction into Workforce Education (3 credit hours)
Provides students with a foundation for teaching workforce education competencies, philosophy, and instructional organization. Development of integrated workforce instructional plans is a major emphasis. Prerequisite: VOE 471.

452 Workforce Teacher Performance Assessment (3 credit hours)
A program of teacher assessment using three assessment methods, direct observation of classroom practice, review of written documentation prepared by the teacher, and semi-structured interviews before and after the observation. Prerequisite: VOE 471, 451, 421, 431, 472, 473, 474, 475, 469, 458, 411.

455 Laboratory Safety and Accident Prevention for Vocational Teachers (3 credit hours)
To develop an awareness of safety as well as the prevention of accidents in industrial shops and laboratories. Prerequisite: trade and industrial majors or permission of instructor. Prerequisite: Trade and Industrial major or permission of instructor.

456 Vocational Student Organizations (3 credit hours)
An analysis of vocational youth organizations with emphasis on planning and conducting such programs.

458 Selection and Organization of Workforce Curriculum (3 credit hours)
Provides workforce educators the competencies necessary to identify, select, and organize curricular models and resources to develop a program course of study. Prerequisite: VOE 457 or permission of instructor.

459 Developing Competency-Based Curriculum Materials (3 credit hours)
Provides the vocational teacher with skills to develop individualized competency-based education from new or previously developed curriculum.

460 Vocational Teaching Competencies I (3 credit hours)
Covers basic competencies of teaching for beginning vocational teachers.

461 Vocational Teaching Competencies II (3 credit hours)
Covers basic competencies of teaching for beginning vocational teachers, including lab management and evaluation. Prerequisite: VOE 460.

462 Vocational Teaching Competencies III (3 credit hours)
Covers basic competencies of teaching for beginning vocational teachers, including individualized learning styles and performance. Prerequisite: VOE 461.

463 Methods for Incorporating Academic Skills in the Vocational Program (3 credit hours)
An analysis of occupational tasks and competency lists to identify related math, science, or communication skills necessary to succeed as workers in modern society. Includes methods of teaching academics as applied to work or laboratory skills or operations.

464 Methods and Strategies for At-Risk Students (3 to 9 credit hours)
This course focuses on helping teachers develop skills in working with at-risk students enrolled in their programs. Emphasis will be on emotionally, academically, and economically disadvantaged risk students, examining the impact of culture on students and teachers and exploring alternative teaching strategies and program modifications.
Course Descriptions

465 Workforce Education: Employability Skills and Entrepreneurship (3 credit hours)
Designed to present current requirements and methods of teaching work/employability, life and leadership skills. Includes strategies, materials, and learning activities to implement employability and entrepreneurship in workforce education programs.

466 Vocational Reading Improvement (3 credit hours)
Techniques of diagnosing reading problems of the secondary vocational students. Assessment of readability of text and technical materials with emphasis on a selection of materials and strategies for individual students.

467 Organization and Administration in Marketing Education (3 credit hours)
The organization, administration, and structure of marketing education as affected by federal and state legislation, local practices and guidelines, and national standards adopted by the profession. Prerequisite: ED 214 through ED 221 or equivalent.

468 Methods of Teaching Marketing Education (4 credit hours)
Selection, organization, and presentation of subject matter in high school and adult extension programs. Methodology and teaching techniques will be emphasized through theory and practice. Participation experience required during enrollment in course. Prerequisite: ED 214 through ED 221 or equivalent; corequisite ED 323.

469 Coordination Techniques in Workforce Education (3 credit hours)
Effective coordination strategies and procedures in the administration and management of cooperative programs in high schools, and in adult and postsecondary education. Prerequisite: ED 214 through ED 221 or equivalent.

470 Workshop in Vocational Education (1 to 4 credit hours)
Intensive practical study in vocational education. May be taken for letter grade or pass/fail unsatisfactory.

471 Introduction into Workforce Teaching (8 credit hours)
The development of basic cognitive and performance skills in pedagogy required by new workforce teachers to earn a vocational teacher license. Prerequisite: Vocational Education Teacher.

472 Supervised Teaching in Workforce Education I (3 credit hours)
Development of basic knowledge, skills, and attitudes required for vocational certification of new, non-certified vocational teachers.

473 Supervised Teaching in Workforce Education II (3 credit hours)
Development of basic knowledge, skills, and attitudes required for vocational certification of new non-certified vocational teachers.

474 Supervised Teaching in Workforce Education III (3 credit hours)
Development of basic knowledge, skills and attitudes required for vocational certification of new, non-certified vocational teachers.

475 Workforce Teaching Follow-up Workshop (4 credit hours)
Refinement of curriculum development, motivation, leadership, and human relations skills required by employed workforce education teachers. Prerequisite: VOE 471, 472, 473, 474.

476 Inservice Ed IV (1 credit hour)
Development of basic knowledge, skills, and attitudes required for vocational certification of new non-certified vocational teachers.

477 Inservice Ed V (1 credit hour)
Development of basic knowledge, skills, and attitudes required for vocational certification of new non-certified vocational teachers.

478 Inservice Ed VI (1 credit hour)
Development of basic knowledge, skills, and attitudes required for vocational certification of new non-certified vocational teachers.

479 Clinical Project in Vocational Education (3 credit hours)
Addresses special problem areas associated with motivating students, classroom management, discipline, handicapped and disadvantaged students, teacher liability, teaching and learning principles, instructional strategies, evaluation, advisory committees, curriculum, lesson planning, and/or safety Prerequisite: VOE 474.

481 Curriculum in Marketing Education (3 credit hours)
Securing, evaluating, and organizing instructional material and the development of curriculum and experiences for high school marketing education cooperative classes and adult marketing education courses Prerequisite: ED 214 through ED 221, VOE 467.

Women’s Studies/WMS

200 Approaches to Women's Studies (4 credit hours)
Introduces students to feminist thought, advocacy, and activism to acquaint students with the diversity of the subject area. Students will investigate why it is important to study women and use gender as a category of analysis.
300 Women in Multicultural Perspective
(4 credit hours)
Courses will survey special topics in gender history. Topics may include masculinity, femininity, sexuality, family, and women’s history. Focus may be on one nation, region, or a comparative perspective. Also listed as HST 220.

399 Studies in Selected Subjects (4 credit hours)
Problems, approaches, and topics in the field of women’s studies. Titles vary. Topics vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor.

400 Women in International Perspective
(4 credit hours)
Course will allow intensive analysis of subjects in gender history. Topics may include masculinity, femininity, sexuality, family, and women’s history. Focus may be on one nation, region, or a comparative perspective. Also listed as HST 486.

450 Feminist Thought (4 credit hours)
Supervised individual projects that may involve internships with women’s organizations or other field experiences. Titles vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor.

498 Independent Field Experience
(1 to 4 credit hours)
Supervised individual projects that may involve internships with women’s organizations or other field experiences. Titles vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor.

499 Independent Study (1 to 4 credit hours)
Supervised individual research on selected topics. Arranged between students and faculty member directing the study. Titles vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor.
TECHNICAL COURSE DESCRIPTIONS
OFFERED AT THE WRIGHT STATE UNIVERSITY–LAKE CAMPUS
Technical courses are taught at the Wright State University-Lake Campus. The Lake Campus offers associate and prebaccalaureate degree programs, as well as bachelor's degrees in Early Childhood Education and Organizational Leadership; a B.S.N. completion program for registered nurses who wish to receive their bachelor's degree; a weekend M.B.A. for working professionals; and other master's level programs including Education and Educational Leadership. Many of these programs also include courses described in the general course description section on pages 212–341.

A list of course abbreviations and an explanation of the course numbering system can be found on pages 210 and 211. Not all courses described here are offered every quarter or every year. For a more detailed listing ofprerequisites, enrollment restrictions, and specific courses offered in a particular quarter, consult the Wright State class schedule published each fall, winter, spring, and summer.

Engineering Technology/TEG

141-2 Development of Engineering and Technology
Historical perspective of the development of engineering, science, and technology, including the interrelationship of technology and society.

145-4 Engineering Drawing/CAD I
Basic concepts of engineering drawing applied to manual and computer-aided drafting. Orthographic projection to produce complete multiview drawings. Computer basics for drawing set-up, construction, and file management. Two hours lecture, four hours lab. Corequisite: TMT 113 or permission of instructor.

146-4 Engineering Drawing/CAD II
TEG 145 continuation. Orthographic projection techniques are expanded to include sectional, auxiliary, and pictorial views. CAD concepts expanded to dimension styles, blocks, x-refs, paper and model space, UCS, and other topics. Two hours lecture, four hours lab. Prerequisite: TEG 145 or permission of instructor.

147-4 Engineering Drawing/CAD III
Design concepts applied to specific topics: threads, cams, weld representations, geometric dimensioning and tolerancing, developments, and descriptive geometry. Student will produce assembly, detail, and pictorial drawings. Two hours lecture, four hours lab. Prerequisite: TEG 146 or permission of instructor.

150-3 Manufacturing I
An introduction to many of the basic tools, machines, and measuring instruments used in the manufacturing industry. Emphasizes safety in the operation of industrial metalworking equipment, understanding material cutting science, and logical process decisions. Lab work emphasizes turning operations and permanent metal joining techniques. Two hours lecture, two hours lab. Prerequisite: TMT 113 or permission of instructor.

151-3 Manufacturing II
A continuation of TEG 150. Course involves further discussion of manufacturing processes as well as hands-on machining experience. Lab work emphasizes milling operations, welding operations, and EDM machining. Two hours lecture, two hours lab. Prerequisite: TEG 150 or permission of instructor.

152-4 Automated Manufacturing I
An introduction to the operation and programming of computer numerically controlled equipment. The student will learn the process of writing and editing CNC programs and the basic principles of CAD-CAM software operation. Two hours lecture, four hours lab. Prerequisite: TEG 150 or permission of instructor.

153-4 Automated Manufacturing II
A step-by-step process through the operation of computer-aided-manufacturing software to manipulate part programs and produce standard CNC code. Uses the basic principles of CAD for product design and CAM to set up toolpaths, offsets, and other required information to produce the CNC codes and manufacture the parts. Two hours lecture, four hours lab. Prerequisite: TEG 152, TMT 114, or permission of instructor.

160-4 Fundamentals of AC/DC Electronics
Surveys basic concepts of electricity, voltage, power, and energy; symbology per industry standards; and series, parallel, and combination circuits and their applications. Introduction to AC quantities, including magnetic, capacitive, and inductive quantities, and the fundamental operation of motors and generators. Two hours lecture, four hours lab. Prerequisite: TMT 114 or permission of instructor.

161-4 Industrial Control Circuits
Introduction to semiconductor theory fundamentals and applications, AC/DC fundamentals using motors and controlling circuits, ladder diagrams, sequential analysis and evaluation of symbology used in control circuits, and basics of programmable logic controllers are introduced. Two hours lecture, four hours lab. Prerequisite: TEG 160 or permission of instructor.
201-4 Statics
Forces, resultants, components, moments; equilibrium of particles and rigid bodies; analysis of structures; centroids and moments of inertia. Prerequisite: TMT 115; PHY 101, 111.

202-4 Dynamics
Motion of particles and rigid bodies: displacement, velocity, acceleration, force, and mass; torque, mass moments of inertia, rotation; work-energy relation for particles and rigid bodies. Prerequisite: TEG 201.

203-4 Strength of Materials
Axial stress and strain, shear stress and strain, torsion of circular shafts, combined stresses; shear and bending moment diagrams; deflection of beams and columns; modes of failure. Prerequisite: TEG 202.

204-4 Machine Design I
Three-dimensional design with solid modeling. Creation of primitives, complex solids, solid model editing, two-dimensional extraction and extrusion. Production of both engineering and pictorial drawings. Engineering aspects of solid model design. Two hours lecture, four hours lab. Prerequisite: TEG 147 or permission of instructor.

205-4 CAD/CAM Operations
Studies the relationship of CAD and CAM operations. Student will use three-dimensional models as a database for automated code generation and manufacture of products on standard CNC machines. Two hours lecture, four hours lab. Prerequisite: TEG 147 or permission of instructor.

209-3 Fluid Mechanics
Basic study of hydraulics and pneumatics. Applications of hydraulic principles to industrial control systems and compressed air systems to common industrial control circuits. Prerequisite: PHY 101, 111; TMT 113.

218-3 Facility Design
Material flow, warehousing, quantitative techniques, estimating, planning, and design of industrial and service facilities with emphasis on material handling, production and office layout, management, personnel, aesthetics, and the environment.

219-3 Industrial Safety
Introduces students to a comprehensive approach to the central factors involved in developing safe practices and conditions. Imparts the ability to set up safety organizations, conduct safety education and training, and recognize the effect of plant layout, mechanical guards, and occupational health hazards on injury rates and accident costs. Includes the economic and engineering aspects of fire protection, personal protection equipment, industrial waste disposal, and the analysis of a safety program.

221-4 Automation and Robotics
Application programming course on automated manufacturing. Robotic programming with pendant and BASIC. Cell interfacing, robot, CNC, and support devices operating in a BASIC programming environment. Two hours lecture, four hours lab. Prerequisite: TEG 205 or TEG 153 or permission of instructor.

295-1 to 4 Independent Study
Directed study on selected topics.

297-1 to 5 Studies in Selected Topics
Problems, approaches, and topics in the field of engineering. Titles vary. May be taken for letter grade or pass/unsatisfactory.

Technical Accountancy/TAC

210-3, 211-3 Financial Accounting I, II

220-3, 221-3 Cost Accounting I, II
Practice of cost accounting and cost procedures in industry: job order, process, and standard cost methods. Prerequisite: for 220, ACC 203; for 221, TAC 220.

224-3 Payroll Accounting
Familiarization of payroll accounting systems, understanding tax laws in relation to payroll, and practical application to records and related tax forms. Prerequisite: ACC 202.

225-3, 226-3 Tax Accounting I, II
Income tax regulations related to business and individual income tax reporting. Prerequisite: for 225, ACC 203; for 226, TAC 225.

260-4 Computerized Accounting
Study of software programs for accounting applications. Reviews the process of set-up, initial entries, and analysis of data compiled. Prerequisite: CS 205, ACC 203.

295-1 to 3 Independent Study
Directed study on selected topics.

297-1 to 5 Studies in Selected Subjects
Problems, approaches, and topics in the field of accounting. Titles vary. May be taken for letter grade or pass/unsatisfactory.

299-4 Internship
Practical business experience in accounting for qualified students under the joint planning and coordination of faculty, student, and business representative.
Technical Administration/TAD

200-4 Business Law
The study of law as it relates to business organizations and transactions. Considers the nature and classification of law, courts, torts, contracts, corporations, and negotiable instruments.

Technical Data Processing/TDP

210-3 Electronic Spreadsheets
Use of the electronic spreadsheet as an integrated program that combines spreadsheet processing, word processing, and data base management software with graphics capabilities. Emphasis on how to save, retrieve, extract data, create a spreadsheet, and use worksheet commands, database commands, and graphic commands. Two hours lecture, two hours lab. Prerequisite: CS 205 or permission of instructor.

295-1 to 3 Independent Study
Directed study on selected topics. May be taken for letter grade or pass/unsatisfactory.

297-1 to 4 Studies in Selected Topics
Problems, approaches, and topics in the field of data processing. Titles vary. May be taken for letter grade or pass/unsatisfactory.

299-4 Internship
Practical data processing experience under the joint planning and coordination of faculty, student, and business representative. Completion of 60 hours of course work required.

Technical English/TEN

085-4 Basic Writing
Helps students develop and improve writing skills. Subject areas include grammar, sentence structure, paragraph development, essay writing, and proofreading. Cannot be applied toward graduation. Graded pass/unsatisfactory.

Technical Finance/TFI

205-3 Business Finance
Introduction to basic concepts, principles, and analytical techniques of financial management. Emphasis on planning and managing assets, and financial structure decisions. Topics include asset management, capital budgeting, cost of capital, financial leverage, and the demands for funds in the business sector of the economy. Forms of business financing and fundamental concepts of capital budgeting are analyzed. Prerequisite: ACC 203.

Technical Management/TMG

202-3 Labor Relations
Consideration of the practices, principles, and organization of collective bargaining. Study of the techniques of mediation and the agencies involved in mediation. Causes and cures of labor disputes. Prerequisite: TMG 201 or 210.

204-4 Fundamentals of Management
Basic fundamentals of the process of management applied to business organizations. Emphasis on the practical applications of techniques employed by managers at lower and middle organizational levels.

210-3 Personnel Management
Study of the characteristics, purposes, objectives, and techniques of supervision and coordination of the work of others. Discussions include employment interviewing, training procedures, supervision, and improvement of human relations. Prerequisite: TMG 201.

250-3 Purchasing
Composition of a purchasing office; buying the right quality from the right vendor; buying to support inventory control; make-versus-buy philosophy; and some legal aspects of buying. Prerequisite: TMG 201 or TMK 202.

270-3 Production Management
Introduction to the functions making up the production system, including product parts manufacture, process routing, quality standards, work measurement, work methods, scheduling, and inventory control. Prerequisite: TMG 201.

280-3 Small Business Management
Stresses business management functions important to small businesses, including single ownership, partnership, incorporation, capitalization and financing requirements, legal requirements, production, and marketing arrangements. Prerequisite: TMG 201 or 210.

290-4 Comprehensive Management
Integrates students’ two-year programs and promotes management problem-solving capabilities. Prerequisite: TMG 202, TMK 202; or permission of instructor.

295-1 to 3 Independent Study
Directed study on selected topics.

299-4 Internship
Practical business experience in management for qualified students under the joint planning and coordination of faculty, student, and business representatives. Completion of 60 hours of course work required.
Technical Marketing/TMK

200-4 Basic Marketing
Study of the functions of marketing in the American business system with emphasis on economic and social determinants. Prerequisite: EC 201, MTH 127.

202-3 Basic Marketing II
Practical evaluation of marketing functions relative to the product development, promotion, pricing, distribution, and establishing marketing objectives. Prerequisite: TMK 201.

290-4 Comprehensive Marketing
Integrates students’ two-year programs and promotes marketing problem-solving capabilities. Prerequisite: TMG 202 or TMK 202; or permission of instructor.

295-1 to 3 Independent Study
Directed study on selected topics.

299-4 Internship
Practical business experience in retail marketing for qualified students under the joint planning and coordination of faculty, students, and business representatives. Completion of 60 hours of course work required.

Technical Mathematics/TMT

113-4 Technical Mathematics I
An introduction to the real number system and operations with signed numbers; solving first-degree equations; products and factoring of monomials and polynomials; working with solving equations and radicals; and an introduction to right triangular trigonometry.

114-4 Technical Mathematics II
Includes work with vectors; J operators; logarithmic functions; solving equations; some theory of equations, inequalities, properties of the trigonometric functions, and variations. Prerequisite: TMT 113.

115-4 Technical Mathematics III
Topics covered are variations, progressions, properties of the trigonometric functions, inverse trigonometric functions, and analytical geometry. Prerequisite: TMT 114.

116-4 Technical Calculus
Introduces topics of calculus such as limits, derivative and applications, integration and applications, differentiation of transcendental functions, and methods of integration. Prerequisite: TMT 115.

Technical Office Administration/TOA

101-1, 102-1, 103-1, 104-1, 105-1, 106-1, Professional Development I, II, III, IV, V, VI
Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

111-3 Speedwriting I
Covers skills in writing and reading alphabetic shorthand with emphasis on dictation and transcription. Prerequisite: OA 211 or permission of instructor.

112-3 Speedwriting II
Continuation of TOA 111 and Speedwriting I, with emphasis on speed and production of documents. Prerequisite: TOA 111, OA 211.

115-3 Business/Office Correspondence
Study of terminology and formats used in business communication: letters, reports, memos, dictation, grammar fundamentals, sentence construction, punctuation rules, and spelling. Prerequisite: ENG 101, OA 212.

200-3 Software Applications
Study of computer skills by utilizing various software packages for legal, medical, and administrative office applications. Two hours lecture, two hours lab. Prerequisite: CS 205, OA 211 or permission of instructor.

223-3 Word Processing Simulations
Simulations in word processing functions using merge, list processing, math, and sort. Covers medical, legal, and executive situations. Six hours lab. Prerequisite: OA 222.

224-3 Office Procedures I
Integrates the development of operational functions and decision-making competencies. Simulations in executive, medical, and legal procedures including experiences in telephone and communication techniques, word processing, and administrative services. Prerequisite: OA 211; TOA 250 or 251 or 252.

225-3 Office Procedures II
Continuation of TOA 224. Prerequisite: TOA 224.

226-3 Office Procedures III
Continuation of TOA 225. Prerequisite: TOA 225.

230-3 Records Management
Filing systems and procedures. Combines technical aspects of records technique with sound principles of management.

231-3 Office Management
Office organization; emphasis on work flow, proper equipment, problems in supervision, human relations, and management techniques.
233-3 *Machine Transcription I*
Executive, medical, and legal transcription from cassettes, emphasizing skills needed in today's word processing environment. Two hours lecture, two hours lab. Prerequisite: OA 213, 220; TOA 250 or 251 or 252.

234-3 *Machine Transcription II*
Continuation of TOA 233 including executive, medical, and legal projects. Two hours lecture, two hours lab. Prerequisite: TOA 233.

235-3 *Calculator Applications*
Operation of electronic display and printing calculators with business math and office applications. Two hours lecture, two hours lab.

241-3 *Beginning Desktop Publishing*
Business course using a computer graphic design system to produce typeset-quality text and graphics such as newsletters, letterheads, brochures, and manuals. Two hours lecture, two hours lab. Prerequisite: OA 211 or EDT 211.

242-3 *Advanced Desktop Publishing*
Continuation of TOA 241 using more advanced features and applications of graphics and software programs. Two hours lecture, two hours lab. Prerequisite: TOA 241.

243-3 *Desktop Publishing Applications*
An overview of desktop publishing systems using advanced concepts and terminology. Study of the principles of design and the publishing cycle. One hour lecture, four hours lab. Prerequisite: TOA 241, 242.

250-3 *Executive Terminology*
Study of executive terminology and other basic aspects of the executive assistant profession. Corequisite: OA 211.

251-3 *Legal Terminology*
Study of legal terminology and other basic aspects of the legal assistant profession. Corequisite: OA 211.

252-3 *Medical Terminology*
Study of medical terminology and other basic aspects of the medical assistant profession. Corequisite: OA 211.

253-3 *Medical Terminology II*
Continuation of TOA 252. Covers basic vocabulary utilized in medical office environment. Prerequisite: TOA 252.

255-3 *Medical Coding*
Study of medical skills in CPT coding for insurance and medical documents using reference manuals and computer software. Prerequisite: TOA 253.

295-1 to 3 *Independent Study*
Directed study on selected topics.

297-1 to 5 *Studies in Selected Topics*
Problems, approaches, and topics in the field of office administration. May be taken for letter grade or pass/unsatisfactory. Titles vary.

299-4 *Internship*
Practical secretarial experience under the joint planning and coordination of faculty, student, and business representative. Completion of 60 hours of course work required. May be taken for letter grade or pass/unsatisfactory.

### Technical Study Skills/TSS

**051-1 Reading Comprehension I**
Emphasis is placed on improving reading skills, comprehension, concentration, and related vocabulary development. This is accomplished by using individualized instruction in sequenced kits and other related materials. Graded pass/unsatisfactory.

**052-1 Reading Comprehension II**
Continuation of TSS 051. Graded pass/unsatisfactory.

**053-1 Reading Comprehension III**
Continuation of TSS 052. Graded pass/unsatisfactory.

**054-1 Reading Comprehension IV**
Continuation of TSS 053. Graded pass/unsatisfactory.

**061-1 Vocabulary Development I**
Corequisite: OA 211. Continuation of TSS 060. Graded pass/unsatisfactory.

**062-1 Vocabulary Development II**

**071-1 Speed Reading I**
For students interested in becoming a more flexible reader. Emphasis is on refining skills and improving rate, comprehension, and efficiency. Recommended for those students who already read adequately, but desire techniques that will decrease the amount of time spent in reading. Helps determine at what rates different materials should be read. Graded pass/unsatisfactory.

**072-1 Speed Reading II**
Continuation of TSS 071. Graded pass/unsatisfactory.
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Criteria for Ohio Residency

Ohio Board of Regents Rule 3333-1-10

Ohio student residency for state subsidy and tuition surcharge purposes

(A) Intent and Authority

(1) It is the intent of the Ohio Board of Regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.

(2) This rule is adopted pursuant to Chapter 119 of the Revised Code, and under the authority conferred upon the Ohio Board of Regents by section 3333.31 of the Revised Code.

(B) Definitions

For purpose of this rule:

(1) A “resident of Ohio for all other legal purposes,” 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 welfare benefits, and who may be subjected to tax liability under section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.

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

(3) An “institution of higher education,” as used in this rule, shall mean any university, community college, technical institute or college, general and technical college, medical college, or private medical or dental college that receives a direct subsidy from the state of Ohio.

(4) For the purpose of determining residency for tuition surcharge purposes at Ohio’s state-assisted colleges and universities, “domicile” is a person’s permanent place of abode: there must exist a demonstrated intent to live permanently in Ohio, and a legal ability under federal and state law to reside permanently in the state. For the purpose of this policy, only one domicile may be maintained at a given time.

(5) For the purpose of determining residency for tuition surcharge purposes at Ohio’s state-assisted colleges and universities, an individual’s immigration status will not preclude an individual from obtaining resident status if that individual has the current legal status to remain permanently in the United States.

(C) Residency for Subsidy and Tuition Surcharge Purposes

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

(1) A dependent student, at least one of whose parents or legal guardian has been a resident of the state of Ohio for all other legal purposes for 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 child 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 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 or spouse of the student is employed full time in Ohio.

(b) A copy of the lease under which the parent 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 or spouse is the owner and occupant; or if the parent or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that the parent or spouse resides at that residence.

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

(1) Criteria evidencing residency:

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

(b) 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 any purpose other than tax liability, voting, or receipt of welfare benefits (see paragraph (D)(2)(a) of this rule).

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

(1) A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education shall be considered a resident of Ohio for these purposes.

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

(3) A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.
(4) A person who is transferred by his or her employer beyond the territorial limits of the 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.

(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, upon the completion of twelve consecutive months of residency, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. Should such person present clear and convincing proof that no part of his or her financial support is or in the aggregate, lives more than 365 days of the taxable year outside this state.”

1. Section (B)(1)

a. A “twelve-month place or places of residence in Ohio,” within the meaning of this section, shall mean the maintenance of living quarters in the state. This may be fulfilled in whole or in part by the rental of a dormitory room. It should not be interpreted so as to require unbroken physical presence in the state, so long as the “place” of residence is maintained. Residence is not lost, therefore, by vacationing out of the state. However, should an individual leave for the entire summer to be employed out of state, the legitimacy of a claim that twelve-month residency in Ohio has been maintained should be seriously questioned.

b. A person who is “qualified as a resident to vote in Ohio and receive state welfare benefits” need only be physically present here for thirty days and have declared himself or herself to be a resident. This should not be interpreted so as to require anyone to actually register to vote or apply for welfare benefits.

c. Persons “who may be subjected to tax liability under section 5747.02 of the Revised Code” are defined in Revised Code 5747.01 (1) as follows:

1) “Resident” means:

(1) an individual who is domiciled in this state;

(2) an individual who lives in and maintains a permanent place of abode in this state, and who does not maintain a permanent place of abode elsewhere, unless such individual, in the aggregate, lives more than 365 days of the taxable year outside this state.”

2. Section (B)(2)

The purpose of this section is to insure that persons receiving direct and substantial parental or family support from out of state shall not be allowed Ohio residency. Occasional small gifts that are not a substantial part of a person’s maintenance should not disqualify that person from achieving residency. Similarly, the receipt of grants, loans, or scholarships from the federal government, corporations, foundations, or banks that are not simply conduits for family support, or from other states when this is not precluded by section (B)(1), should not disqualify a person.

3. Section (B)(5)

a. Certain immigration visas carry with them the current legal status, by virtue of federal treaties and agreements, to enable the holder to remain in the United States and establish resident status. A student who holds one of these visas can therefore be considered for resident status for tuition surcharge purposes in the same manner as any other student assuming that the requirements specified in section (B)(1) of this rule are met.
b. The determination of the twelve-month residency requirement for an alien admitted for permanent residence, if necessary, shall include any portion, up to twelve months, of the elapsed time between the date of application for adjustment of status to lawful permanent resident and the date of application for residency for these purposes. All other relevant requirements under section (C) of this rule must also be adhered to in making the residency determination.

c. To change his or her immigration status from temporary to permanent, an alien must file INS form I-845. The college or university residency official can obtain the date an application was accepted by INS through an information release form (G-641) signed by the alien. There is also a nominal service fee that must accompany the release form.

d. In instances where, prior to August 10, 1978, aliens, for reasons of quota, have not been permitted to officially file for permanent residency (INS form I-845), but have had their visa preference petition approved by INS, and have been allowed to remain and to work in the United States, the residency official may use the INS verified petition approval date* to document intent to become a permanent resident. In these cases, the visa preference petition must be filed by the individual seeking Ohio residency, if adult, and not by another party. In the case of minors, the head of the family’s application for such minors is acceptable. All other relevant requirements under section (C) of this rule must be adhered to in making the residency determination.

4. Section (C)(1)
The intent of the term “dependent student” is to tie the residency of persons who have never emancipated themselves from their parents to those parents. This connotes a continued, unbroken dependency. Children who emancipate themselves from parents who are Ohio residents and later return to dependency on those parents may be awarded immediate residency status by providing satisfactory documentation of renewed dependence and evidence of compliance with other pertinent provisions of the rule, including physical presence in the state.

“Enrollment” under this section shall commence with the first day of classes at the institution attended.

5. Section (C)(2)
The term “resident” in this section shall mean a person who meets the requirements of section (B)(1).

6. Section (C)(3)
The intent of this provision is to speed up the “residency clock” for family members (i.e., spouse, dependent children) whose domicile follows that of a full-time employed person who has moved into Ohio for employment purposes. Rather than being subject to out-of-state tuition rates for the first twelve months of the employed person’s presence in Ohio, the dependent children and spouse of the full-time employed person are eligible for resident tuition rates immediately—provided that the move to Ohio was not for the purpose of gaining favorable tuition rates, and that appropriate documentation is provided.

In accordance with the provisions of section (F)(5) of the rule, residency officers may request such documentation in addition to the materials specifically described in (C)(3) as they deem necessary to conclusively determine employment status and/or domicile.

Also, residency officers may request documentation of application and acceptance dates pertaining to employment and instructional programs as necessary to weigh questions of intent.

7. Section (E)(1)
a. “Gainfully employed,” as used in this section, shall mean engaged in an income-producing occupation. The spouse of the person gainfully employed may also be considered gainfully employed provided he or she is providing full-time services as a homemaker.

b. “Full-time” employment, as used in this section, shall be construed in light of the standards applicable to a given occupation.

c. A “part-time program of instruction” for these purposes is to be defined by an institution as that term is otherwise applied.

8. Section (E)(2)
a. The “United States military service,” as used in this section and in section (E)(3), shall mean persons holding status in the branches of military service, whether performing actual military duty or on assignment elsewhere.

b. “Dependents” under this section and under section (E)(3) shall be limited to members of the immediate family who are in fact dependent on the member of the military for a substantial part of their financial support.

c. Active service of commissioned officers of the Public Health Service shall be deemed to be active military service in the armed forces of the United States for determining residency for tuition purposes.

d. “Domicile,” under this section, shall mean the place a person declares to be his or her home for voting and taxation purposes.

9. Section (E)(4)

“Domicile,” under this section, is to be interpreted in the same manner as (E)(2).

10. Section (E)(5)
a. For purposes of this rule, a migrant is defined as someone who makes or has made his or her livelihood in hiring out to do seasonal work and has traveled interstate for this purpose.

b. The income earned in Ohio shall have been subject to Ohio taxation.

c. In making a determination under this section, an institution may consider any probative evidence submitted by a person. Any evidence taken may be required to be sworn.

11. Sections (F)(1), (F)(2), and (F)(3)
a. A person’s parents or legal guardian shall be deemed to have removed their residency from Ohio when the person with whom a student resides and upon whom he or she is financially dependent leaves the state with no present intention of returning to resume residency.

b. An “academic degree program” shall not include the associate degree when the person receiving such degree continues full-time pursuit of a baccalaureate degree.

c. For students who qualify for residency status under (C)(1) or (C)(2), a period of twelve months following removal of the independent student or dependent student’s parents or legal guardian is permitted during which residency is not lost.
d. Students who qualify for residency status under (C)(3) will lose residency status immediately if the employed person upon whom immediate resident student status was based accepts employment and establishes domicile outside Ohio less than twelve months after accepting employment and establishing domicile in Ohio. If the employed person retains Ohio employment and domicile for twelve months or more, the student would qualify for residency under (C)(1) and would retain residency status as described in a., b., and c. above.

12. Section (F)(4)

a. A change in residency status under this section is never automatic, and must be initiated by an application for such change by the person seeking it.

b. “Clear and convincing proof” is that standard of evidence that is beyond mere preponderance, but falling short of the “beyond a reasonable doubt” test. It requires that there exist no substantial evidence, direct or circumstantial, conflicting with that proffered by a person applying for a change in residency status.

c. In making a determination under this section, and institution may consider any probative evidence submitted by a person. It may require, however, submission of only those things which the person himself or herself can secure. Any evidence taken may be required to be sworn.

13. Section (F)(5)

It is incumbent upon a person to apply for a change in residency, and his or her failure to do so as soon as he or she is entitled to a change shall preclude the granting of residency status, however, any such opportunity that is afforded to one person must be equally granted to others. A person or body making a determination under this section should allow the student an opportunity to submit all documentary evidence directly related to a student and are maintained by the university. Some records maintained are not educational records, such as those:

- by the Office of Public Safety for law enforcement purposes;
- by a physician, psychiatrist, psychologist, or other recognized professional, professional in training, or paraprofessional made, maintained, or used solely for the purpose of treatment or accommodation;
- records exclusively containing information about an individual after he or she is no longer a student.

Students are granted the right to inspect and review all of their educational records, with the exception of the financial records of parents and confidential letters and statements of recommendations covering certain years. Students may waive their right of access to confidential letters and statements of recommendation. If the student signs a waiver, upon request, the names of all persons making confidential recommendations will be made available. The university may not require a student to waive his or her right of access for receipt of university benefits or services.

Reviewing Records

Requests to review records must be made separately, in writing, to each office maintaining records. Within 15 days, and not to exceed 30 days, offices will respond to requests to review and inspect. Information contained in educational records will be fully explained and interpreted to students by university personnel.

Students have the right to challenge the content of their education records if they consider the information contained therein to be inaccurate, misleading, or inappropriate. Students challenging information in their records must submit, in writing, a request for a hearing to the director of the appropriate department, school, or college maintaining the record, listing the specific information in question and the reasons for the challenge.

In the event that the hearing panel denies a student’s request to change information within his or her record, an appeal may be made. All appeals shall be in writing, and submitted to the Registrar within 10 business days of the hearing decision. In the event that the appeal is denied, the student may choose to place a statement with the record commenting on the accuracy of the information in the record and/or setting forth any basis for inaccuracy. Note: The Schools of Medicine and Professional Psychology have separate procedures for challenging and adjudicating record disputes. Please refer to the individual school’s student handbook for more information.

Public Information

Information identified as public information will be released without the student’s consent. Public information is defined as the following:

- Student’s name*
- All addresses including e-mail*
- Telephone listings*
- Major field of study
- Number of hours registered

Notice to Students

Privacy and Release of Student Educational Record Information

The Family Educational Rights and Privacy Act of 1974 (FERPA) as amended sets forth requirements designed to protect the privacy of student educational records. FERPA governs access to records maintained by educational institutions and the release of information from those records. This abbreviated document is provided as an overview of Wright State University’s commitment to protect educational records for both the student and the institution. For additional information, please contact The Office of the Registrar, E244 Student Union, (937) 775-5588, fax (937) 775-5597; e-mail registrar@wright.edu.

Educational Records

Educational records are those records, files, documents, and other materials that contain information directly related to a student and are maintained by
• Full- or part-time status
• Class standing (freshman, sophomore, junior, senior, graduate, or professional)
• Dates of attendance
• Degrees awarded and total hours earned
• Special honors and awards
• Most recent previous educational agency or institution attended by the student
• Participation in officially recognized activities and sports
• Weight and height of members of athletic teams

*These items are included in the WSU telephone directory.

Students have the right, however, to have this information withheld from the public if they so desire. Each student who wants information withheld (including items to be published in the student directory) shall complete a "Request to Prevent Release of Public Information" form from the Office of the Registrar. Each student is advised to carefully consider the consequences of a decision to withold public information (e.g., if a student is named to the dean's list, the university cannot make that information public). The university will not release information that is requested to be withheld; any requests from persons or organizations outside the university will be refused unless the student provides written consent for the release.

Public information status remains in effect until the student changes it, even after discontinuing attendance, upon graduation, or upon death.

The university receives many inquiries for "directory information" from a variety of sources, including friends, parents, relatives, prospective employers, other institutions of higher education, honor societies, licensing agencies, government agencies, and the news media. The university will not release information that is requested to be withheld, and any requests from persons or organizations outside the university will be refused unless the student provides written consent for the release.

The following are examples of when prior consent from a student is not needed. Consequently, the university will release this information in the following instances:

• for requests from Wright State University employees who have a legitimate educational interest on a "need to know" basis;
• in compliance with a lawful subpoena or judicial order (only after an attempt is made to inform the student by the Office of General Counsel);
• for requests in connection with a student's application for or receipt of financial aid;
• for requests by state authorities and agencies specifically exempted from the prior consent requirements by the Act;
• for information submitted to accrediting organizations;
• for requests by parents of a dependent student, as defined in Section 152 of the Internal Revenue Code of 1954;
• in cases where a student who is under 21 years of age (at the time of notification) has committed a violation of law or university policy pertaining to drugs or alcohol;
• in cases where a student is found responsible for a violation of the university's Code of Student Conduct pertaining to an act of sexual or physical assault;
• in the case of emergencies where the health, welfare, or safety of the student is in jeopardy;
• to authorized federal officials;
• for information requested by officials of other institutions in which the student intends to enroll.

Note: Each fall quarter, the university publishes the telephone directory, which contains names, home and local addresses, e-mail addresses, and local telephone numbers. To keep information from being printed in the directory, a student must notify the Office of the Registrar (in the manner described above) no later than the first Friday after the start of the fall quarter. Because the directory is published only once a year, requests to change a student's information release status after the first Friday of fall quarter (or in subsequent quarters), will not be reflected in the printed directory. However, changes will be applied to public information within the student information system.

Equal Opportunity/Affirmative Action Policy

Wright State University is committed to achieving full equal opportunity in all aspects of university life. We are proud of the diversity of the university community and strive to make all members of the community feel welcome.

The policy of Wright State University is to not discriminate against any persons on the basis of race, religion, color, sex, sexual orientation, disability, veteran status, national origin, age, or ancestry. In addition, we take affirmative action to recruit and assist members of various racial or ethnic groups, women, Vietnam-era veterans, and persons with disabilities whose ability to achieve academic success might otherwise be unrecognized because of cultural barriers. Our policy is fully consistent with the various federal and Ohio statutes which prohibit discrimination.

Equal Opportunity/Affirmative Action Policy

Any questions or comments about the university's policy, and any complaint about perceived discrimination, may be directed to the director of Affirmative Action Programs, 075 Allyn Hall. (937) 775-3207.

The university's Affirmative Action Plan is maintained in the Office of Affirmative Action Programs. Wright State is a public institution, and accessible to any member of the public.

In addition, Wright State University is a national leader in accommodating the needs of students with disabilities. Any questions or complaints concerning a needed accommodation may be directed to the director of Disability Services, 133 Student Services, (937) 775-2141.

University Aim

Statement

Adopted by the Board of Trustees December 3, 1996.

Wright State University will be a catalyst for educational excellence in the Miami Valley.
Mission Statement
Adopted by the Board of Trustees December 3, 1996.

Wright State University will be a catalyst for educational excellence in the Miami Valley, meeting the need for an educated citizenry dedicated to lifelong learning and service. To those ends, as a metropolitan university, Wright State will provide: access to scholarship and learning; economic and technological development; leadership in health, education and human services; cultural enhancement; and international understanding while fostering collegial involvement and responsibility for continuous improvement of education and research.

University Ethics Statement
Adopted by the WSU Board of Trustees March 28, 1997.

Wright State University’s goal of excellence and its dedication to innovation in teaching, research, and service rests upon an individual and a collective commitment to ethics. The purpose of this statement is to provide general guidelines for strengthening the integrity of the university. It sets forth basic principles for enabling the university to accomplish its mission and serves the public interest in an ethical way.

This statement also identifies a basic process for integrating these principles into the institution’s culture. The university expects the administration, the faculty, the staff, and the students to exemplify these principles in their words and actions.

To guide the conduct of the university community, Wright State University endorses the following principles:

Honesty
Members of the university community will be guided in all their activities by a high regard for truth.

Respect
Members of the university community will show concern for the individuality of others and their ideas.

Justice
Members of the university community will treat others fairly.

Accountability
Members of the university community will be responsible stewards of the public trust.

To integrate these principles into the institution’s culture and to encourage ethical conduct, Wright State University is committed to and ongoing process which will involve the creation of a standing advisory and resource committee to support ongoing formal ethics education, and to assist the university in developing ethics policies and procedures.

Diversity Statement
Adopted by the WSU Board of Trustees March 28, 1991.

Wright State University celebrates diversity. Our daily life is made rich by the diversity of individuals, groups, and cultures. The interplay of the diverse stimulates creativity and achievement in all facets of our existence.

Respect, tolerance, and goodwill are the keystones to enjoying the diversity of our world. We are all linked to each other in a world created for all of us to share and enjoy. Each member of humanity has a potential contribution to make to the whole. It is our duty to encourage and promote that contribution.

Wright State University is committed to achieving an intellectual, cultural, and social environment on campus in which all are free to make their contribution. We will achieve an environment in which every student may think, and learn, and grow without prejudice, without intimidation, and without discrimination. We will achieve an environment in which personal dignity and respect for the individual are recognized by all.

Wright State University promotes the acceptance and appreciation of every individual regardless of race, gender, age, ethnicity, ability or disability, sexual orientation, socioeconomic status, religious affiliation, or national origin. We encourage appropriate activities and events that foster learning about the diversity of our world.

Wright State University will be a model for our geographic region, exemplifying that a human community can exist that celebrates diversity, enjoys the richness that diversity brings to our lives, and grows stronger with every new member.
Accreditation and Memberships

Wright State is accredited by the North Central Association of Colleges and Schools. Also, programs in the College of Education and Human Services are approved by the Ohio Department of Education and accredited by the National Council for Accreditation of Teacher Education, our music programs are accredited by the National Association of Schools of Music, business programs by AACSB—The International Association for Management Education, geological sciences by the American Institute of Professional Geologists, Professional Psychology's clinical psychology and internship programs by the American Psychological Association Committee on Accreditation, social work by the Council on Social Work Education, environmental health by the National Environmental Health and Protection Accreditation Council, medical technology by the Committee on Allied Health Education and Accreditation and the National Accrediting Agency for Clinical Laboratory Scientists, medicine by the Liaison Committee on Medical Education, the College of Engineering and Computer Science's biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, human factors engineering, industrial and systems engineering, materials science and engineering, and mechanical engineering programs by the Accreditation Board, for Engineering and Technology, Inc., and the College of Nursing and Health by the National League for Nursing and the Ohio Board of Nursing. In addition, the Bachelor of Science program in chemistry is approved by the Ohio Department of Education. geological sciences by the American Council on Social Work Education. environmental Psychology’s clinical psychology and internship programs by the American Psychological Association Committee on Accreditation, social work by the Council on Social Work Education, environmental health by the National Environmental Health and Protection Accreditation Council, medical technology by the Committee on Allied Health Education and Accreditation and the National Accrediting Agency for Clinical Laboratory Scientists, medicine by the Liaison Committee on Medical Education, the College of Engineering and Computer Science's biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, human factors engineering, industrial and systems engineering, materials science and engineering, and mechanical engineering professional accreditation agencies (1) council for accreditation of counseling and related educational programs, (2) council on rehabilitation education, Inc.

Wright State holds membership in numerous organizations, including the National Network for Educational Renewal, American Association of Colleges for Teacher Education, American Council of Learned Societies and National Association of State Universities and Land Grant Colleges, the Midwestern Association of Graduate Schools, the Council of Graduate Schools, the Ohio College Association, the Association of Urban Universities, the American Association of State Colleges and Universities, and separate, the urban universities implement their mission through research, technical assistance, and service. The Statistical Consulting Center provides help free of charge to faculty, staff, and graduate students with the collection, analysis, interpretation, and management of research data and to the community-at-large for a fee. The Center for Excellence in Teaching supports WSU's commitment to excellence in teaching by assisting teaching staff in teaching effectiveness and student learning. The Institute for Environmental Quality recognizes the importance of student environmental awareness at all levels, overseeing the environmental courses, programs, and research that serve our diverse student interests. In addition, the Sanders Judaic Studies Program, providing scholarship and teaching in the field of Judaic studies, is made possible through the cooperative effort of Wright State, United Theological Seminary, and the University of Dayton.
Wright State University Report on the Quality of Teacher Preparation

Academic Year 2001–2002


Provided in compliance with the requirements of the Title II Higher Education Act.

College of Education and Human Services

Teacher Preparation: The College of Education and Human Services (CEHS) offers more than 50 majors in pre-K–12 education leading to provisional licensure in Ohio. Master’s degrees are offered in many areas of specialization, an Ed.S. program in school administration, a school counseling program, and a post-baccalaureate program for licensure candidates who wish to practice the art and science of teaching in the classroom for an entire school year.

Student Characteristics: The College of Education and Human Services has a total enrollment of 1,913 students (Fall 2002); 55 percent are enrolled in graduate programs. The majority of students are female, “nontraditional” age, commuter students. The average undergraduate grade-point average (GPA) of a student admitted to a teacher education program was 3.09. The average GPA for admitted graduate students was 3.14. The CEHS candidates achieved an overall pass rate of 91 percent on the Praxis II exam and in almost all areas exceeded the national pass rates. Seventeen percent of all Wright State University (WSU) students are minority students.

Admission Requirements

Admission to Teacher Education: Admission to Teacher Education: Undergraduate admission requirements include the completion of 45 quarter hours with a minimum 2.5 grade-point average, a writing sample, and an interview with a faculty advisor. Undergraduates must also demonstrate successful scores on the Praxis I basic skills test in reading, writing, and mathematics. In addition to the formal application process described above, requirements for admission to a graduate program include a 2.7 grade point average and successful scores on the content area, Praxis II specialty area exam(s).

State Approval and Accreditation

The Teacher Preparation Program at Wright State University is approved by the Ohio Department of Education. As required by the Title II Higher Education Act (HEA) of 1998, Section 208 (a), WSU reports that the teacher education programs offered by the College of Education and Human Services are not currently designated as “low performing” by the state of Ohio.

The Teacher Preparation Program is accredited by the National Council for Accreditation of Teacher Education (NCATE), 2010 Massachusetts Ave., NW, Suite 500, Washington, D. C. 20036; telephone (202) 466-7496. This accreditation applies to the initial teacher preparation programs, the advanced educator preparation programs, and the school counseling program.

Program Information

The average undergraduate GPA of a student admitted to a teacher preparation program was 3.09. The average graduate GPA of a student admitted to a teacher preparation program was 3.14. In reporting year 2001–2002, 382 students completed a teacher preparation program and took one or more of required exams. The total number of newly admitted students into initial teacher preparation programs, all specializations, in reporting year 2001–2002 was 322. The total enrollment in all of our teacher education programs, regardless of academic standing, was 1,399. The total number of students in supervised student teaching was 436. The data below is information on the number of faculty in professional education; 44 were full-time faculty in professional education. 13 were part-time faculty in education but full time at WSU. 70 were part-time faculty in education and not otherwise employed at WSU. The total number of supervising faculty for student teachers during 2001–2002 was 70. The student/faculty ratio in supervised student teaching was 6 to 1. The average hours per week required in student teaching was 30. The total number of weeks required in student teaching was 11. The total number of hours required in student teaching was 330.

Special Features and Notable Accomplishments

- Wright State education graduates are recognized at state and national levels. In addition to being named Ohio Teacher of the Year, graduates have received the Ohio Governor’s Leadership Award, Ohio Department of Education Family Partnership Award, the Disney’s American Teacher Award, the Presidential Award for Excellence in Science Teaching, and the Milken Family Foundation National Educator Award.
- Wright State is one of three universities chosen by the Ohio Board of Regents to develop the Ohio Teaching-Learning Initiative to improve teacher education. Funded by the Ohio Board of Regents, the Ohio Department of Education, and the National Science Foundation, Wright State participates in the Regents Scholars Program, the C.L.A.S.S. Project, the Model Schools Science and Mathematics Initiative, the West Central EXCEL Center of Excellence in Science and Mathematics Education, and Project SUSTAIN, coordinated by the Miami Valley Regional Collaborative for the
Improvement of Science and Mathematics Education.

• Wright State collaborates with Dayton Public Schools in the Urban Literacy Institute, which is funded by the Ohio Board of Regents, Montgomery County, and private donors. The Teaching American History grant, awarded by the U.S. Department of Education, represents another major partnership between Wright State and the Dayton Public Schools. The Diversity in Teaching and Teacher Education Initiatives and the Urban Teachers' Institute are additional examples of the collaborative relationships that exist with schools, community colleges, and human services agencies in the greater Miami Valley.

• Wright State University is dedicated to teaching, research, and service and has the distinct mission of providing leadership to improve the quality of life for the people of the Miami Valley. Wright State’s links to area business, community, education, and research organizations offer unique educational opportunities to a diverse student body. Named for Dayton’s aviation pioneers, Orville and Wilbur Wright, the university serves nearly 16,000 students with programs leading to more than 100 undergraduate and nearly 50 Ph.D., graduate and professional degrees.
HEA-Title II  2001-2002 Academic Year

Institution Name: Wright State University  Institution Code: 1179  Number of Program Completers Submitted: 382
State: Ohio  Number of Program Completers Found, Matched, and Used in Passing Rate Calculations: 361

<table>
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<tr>
<th>Type of Assessment</th>
<th>Assessment Code Number</th>
<th>Number Taking Assessment</th>
<th>Number Passing Assessment</th>
<th>Institutional Pass Rate</th>
<th>Statewide Pass Rate</th>
<th>National Pass Rate</th>
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<tr>
<td>Professional Knowledge</td>
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<td>Professional Knowledge</td>
<td>520</td>
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<td>152</td>
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<td>Principles of Learning &amp; Teaching K-6</td>
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<td>Education in the Elementary School</td>
<td>010</td>
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<td>11</td>
<td>73%</td>
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<tr>
<td>Elem Ed Curr Instruc Assessment</td>
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<td>96%</td>
<td>95%</td>
<td>80%</td>
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<td>Early Childhood Education</td>
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<td>Biology and General Science</td>
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<td>100%</td>
<td>84%</td>
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<tr>
<td>English Lang Lit Comp Content Knowledge</td>
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<td>11</td>
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<td>89%</td>
<td>71%</td>
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<tr>
<td>Mathematics: Content Knowledge</td>
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<td>67%</td>
<td>55%</td>
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<tr>
<td>Social Studies: Content Knowledge</td>
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<td>72%</td>
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<tr>
<td>Physical Ed: Content Knowledge</td>
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<td>80%</td>
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<td>Business Education</td>
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<td>92%</td>
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<td>Music Content Knowledge</td>
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<td>93%</td>
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<td>Art Content Knowledge</td>
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<td>Biology Content Knowledge Part 1</td>
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<td>93%</td>
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<td>Biology Content Knowledge Part 2</td>
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<td>81%</td>
<td>55%</td>
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<tr>
<td>Earth Science Content Knowledge</td>
<td>571</td>
<td>1</td>
<td></td>
<td>94%</td>
<td>94%</td>
<td>78%</td>
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<td>Health Education</td>
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<td>100%</td>
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<td>Ed of Students w/Mental Retardation</td>
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<td>92%</td>
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<td>100%</td>
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<td>75%</td>
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<td>Tchg Students w/Learning Disabil</td>
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<td>3</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
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</tbody>
</table>

1 The number of program completers found, matched, and used in the passing rate calculation will not equal the sum of the column labeled "Number Taking Assessment" since a completer can take more than one assessment.

2 The national passing rate is calculated at Ohio's cut scores, which are among the highest in the nation. For instance, Ohio requires the highest cut score in Principles of Learning and Teaching 5-9 (middle childhood) and ranks second in Principles of Learning and Teaching in K-6 and 7-12 (adolescent/young adult).
<table>
<thead>
<tr>
<th>Type of Assessment</th>
<th>Number Taking Assessment</th>
<th>Number Passing Assessment</th>
<th>Institutional Pass Rate</th>
<th>Statewide Pass Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate—Professional Knowledge</td>
<td>290</td>
<td>263</td>
<td>91%</td>
<td>93%</td>
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<td>Aggregate—Academic Content Areas (Math, English, Biology, etc.)</td>
<td>314</td>
<td>298</td>
<td>95%</td>
<td>93%</td>
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<tr>
<td>Aggregate—Other Content Areas (Career/Technical Education, Health Educations, etc.)</td>
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<td>22</td>
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<td>100%</td>
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<td>Aggregate—Teaching Special Populations (Special Education, ELS, etc.)</td>
<td>27</td>
<td>27</td>
<td>100%</td>
<td>98%</td>
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<td>Aggregate—Performance Assessments</td>
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<td></td>
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<tr>
<td>Summary Totals and Pass Rates</td>
<td>361</td>
<td>326</td>
<td>90%</td>
<td>91%</td>
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</tbody>
</table>

1 Institutions and/or states did not require the assessments within an aggregate where data cells are blank.

2 Number of completers who took one or more tests in a category and within their area of specialization.

3 Number who passed all tests they took in a category and within their area of specialization.

4 Summary Totals and Pass Rate.

5 If no assessments are reported, the type of Assessment has been removed from this table.
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