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1995-1997 Wright State University Undergraduate Course Catalog

Wright State University

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Dr. Harley E. Flack, president, Wright State University

UNDERGRADUATE CATALOG
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Fall Quarter  September 13–December 2, 1995
September 13, Wednesday/classes begin
November 10, Friday/Veterans Day holiday
November 21, Tuesday/classes end
November 22–26, Wednesday–Sunday/Thanksgiving holiday
November 27–December 2, Monday–Saturday/final examinations
December 2, Saturday/Fall commencement

Winter Quarter  January 2–March 16, 1996
January 2, Tuesday/classes begin
January 15, Monday/Martin Luther King Day holiday
March 11, Monday/classes end
March 12–16, Monday–Saturday/final examinations

Spring Quarter  March 25–June 8, 1996
March 25, Monday/classes begin
May 27, Monday/Memorial Day holiday
June 1, Saturday/classes end
June 3–8, Monday–Saturday/final examinations
June 8, Saturday/Spring commencement

Summer Quarter  June 10–August 15, 1996
June 10, Monday/Term A and C classes begin
July 4, Thursday/Independence Day holiday
July 11, Thursday/Term A classes end
July 15, Monday/Term B classes begin
August 15, Thursday/Terms B and C classes end

* The 1996–97 academic calendar had not been approved by the print date of this catalog. Please call the Office of the Registrar at 513/873-5588 for information and dates pertaining to this, or any future, academic calendar.
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. Please note that the courses are alphabetized by the course's name, not by the abbreviation, both here and later in the course description section.

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Technical Course Abbreviations

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TAC    Technical Accountancy, p. 284
TAD    Technical Administration, p. 284
TDP    Technical Data Processing, p. 285
TEN    Technical English, p. 285
TFI    Technical Finance, p. 285
TMG    Technical Management, p. 286
TMK    Technical Marketing, p. 286
TMT    Technical Mathematics, p. 286
TOA    Technical Office Administration, p. 287
TSS    Technical Study Skills, p. 287

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 3 or 4 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.
Wright State Today

Wright State University, named after aviation pioneers Orville and Wilbur Wright, is a dynamic and diverse institution, with almost 17,000 students pursuing studies in approximately 100 undergraduate majors and 40 graduate and professional degree programs, including the Ed.S., M.D., Psy.D., and Ph.D. degrees. In addition, the Wright State University-Lake Campus, a branch campus located between St. Marys and Celina, Ohio, offers associate and prebaccalaureate degree programs to just over 600 students.

Wright State’s 557-acre main campus, located 12 miles northeast of Dayton, has 20 major buildings and a 200-acre biological preserve. 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. The Russ Engineering Center opened its doors in fall 1992 and serves as a centerpiece of engineering education and research in the community. The university’s newest building, the Student Union, provides a wide array of recreational facilities and houses the offices of the bursar, registrar, admissions, and financial aid, as well as the University Division and numerous other offices.

· The University Libraries include the Paul Laurence Dunbar Library—named for the noted poet and Dayton native—which contains a collection of over 520,000 volumes, the Fordham Health Sciences Library, and a Music Library. The Dunbar Library was one of the first libraries in the state to introduce the new OhioLINK computer system, enabling students to search the holdings of all academic libraries in Ohio. The Fordham Health Sciences Library supports the educational and research needs of the university’s health sciences students and faculty.

Wright State is nationally recognized as a leader in programs and services for people with disabilities. All campus buildings are designed to be accessible to people with disabilities, and most are joined by an extensive underground tunnel system.

The university seeks excellence in all of its academic programs, many of which receive national recognition. The Department of Theatre Arts has received several Awards of Excellence from the Ohio Board of Regents, and students from across the country are enrolled in the program. Wright State accountancy majors have consistently taken top honors at the Student Case Competition, sponsored by the Institute of Management Accountants. The Department of Financial Services has also earned an Award of Excellence from the Ohio Board of Regents, and Wright State’s Department of Chemistry ranks in the top 10 percent nationally in the number of bachelor’s degree graduates certified by the American Chemical Society. Wright State is the only university in the country offering the undergraduate degree in human factors engineering.

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 on page 319.

Wright State—A Metropolitan University

Wright State is one of about 60 institutions that identify themselves as metropolitan universities. In addition to sharing a dedication to excellence in teaching, research, and service, these universities are leaders in the educational, cultural, and economic development of the metropolitan communities of which they are a part. With 80 percent of the nation’s population living in urban areas, metropolitan universities such as Wright State accept the challenge of tackling society’s most pressing and complex issues, locally, in the state and nation, and throughout the world.

As a result, Wright State provides its students with unique opportunities to help solve real-world problems. Students obtain hands-on learning experiences through the university’s link to area corporations, community programs, and governmental agencies. This blending of academia with the larger community provides benefits for both. At the heart of this mission is the scholar, who links the discovery of new knowledge to solving community problems and improving the quality of life for society.

The student is the focus of attention at Wright State University. Accordingly, faculty and staff stimulate students’ desire for learning, help their development outside of class, and provide a caring environment. As a result, Wright State continues to attract achievement-oriented students who are eager to learn.

As Wright State developed its model of the metropolitan university, it set down its ideals in an official metropolitan mission statement, which is listed in its entirety in the Appendix on page 318, and continues to modify its goals through ongoing strategic planning.
Wright State Celebrates Diversity

Wright State has many programs and resources to help students of diverse backgrounds and cultures understand and accept one another.

As an equal opportunity/affirmative action institution, the university encourages and welcomes students of all ethnic backgrounds, ages, and nationalities. Bringing these students together with an active campus life creates a rich intellectual and social experience—a complete university experience.

The Office of Campus Climate (formerly the Office of Multicultural Affairs) and the Bolinga Cultural Resources Center promote cultural diversity on campus and in the community through a variety of programs and activities, which include a scholars and community speakers series and a film series.

The Multicultural Living Program encourages international students to room with American students so that each student can learn more about the other’s culture and values.

The complete texts of Wright State’s equal opportunity/affirmative action and diversity statements can be found in the Appendix on pages 318 and 319.

The Lake Campus

Located on the shore of Grand Lake St. Marys between Celina and St. Marys, the Wright State University—Lake Campus serves Van Wert, Mercer, and Auglaize counties. It offers associate and prebaccalaureate degree programs, with day and evening classes, and a limited number of upper division and graduate courses. The Lake Campus also offers a variety of preprofessional and certificate programs, and it provides students with a transfer module to ease their transition into bachelor’s degree programs.

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 12,800—are undergraduates, and of those, about 9,400 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 46 other countries.

While most students live in the surrounding area and commute to the university, a significant number—almost 2,000—live in campus housing, in either traditional dorm rooms, suite-style rooms, or apartments. A large percentage of freshmen students choose to live on campus: 48 percent lived on campus in fall 1994.

Many of our students are older (mean age is 26 years) and, in addition to their academic work, have other major responsibilities such as a family 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 150 student clubs and organizations provide recreational, professional, and entertainment activities, such as the Artist Series Program. Also popular are the university’s two theatres and concert halls, and the new Student Union, which has extensive recreational facilities, including a fitness center, a small gymnasium, racquet ball 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 have the longest winning streak on record—14 years—of the 160 universities from eight countries that debate each year at the Model United Nations program held in New York City. Also, in both 1992 and 1994, student accounting teams won national titles in management accounting case competitions.

Although Wright State students do not easily fall into specific categories, all are valued for their unique talents and contributions. Wright State faculty challenge their students, encouraging them to realize their potential, to reach their goals, and to fulfill their dreams.
Degrees and Areas of Study

Wright State University offers undergraduate programs in the Colleges of Business and Administration, 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. 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.Mus.), 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 Materials Science and Engineering (B.S.M.S.E.), Bachelor of Science in Mechanical Engineering (B.S.M.E.), Bachelor of Science in Medical Technology (B.S.M.T.), 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.), and Associate of Applied Science (A.A.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.

College of Business and Administration—see page 63

Bachelor of Science in Business degree programs are offered with majors in accountancy, business economics, finance, financial services, human resource management, management, management information systems, management science (operations management), and marketing. The college also offers a Master of Business Administration degree, a Master of Science in Social and Applied Economics degree, and a Master of Science in Logistics Management 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.)
Management (B.S.B.)
Management Information Systems (B.S.B.)
Operations Management (B.S.B.)
Marketing (B.S.B.)

College of Education and Human Services—see page 75

Primarily a professional school, the college is devoted to preparing entry-level teachers, educational administrators, and other school leaders, and to preparing professionals in human services, such as counseling and rehabilitation. The college awards the Bachelor of Science in Education and Bachelor of Science degrees. The college also offers master’s degrees.

Baccalaureate Programs in Education and Human Services

Biological Sciences Education (B.S.Ed.)
Business Comprehensive Education (B.S.Ed.)
Chemistry Education (B.S.Ed.)
Communications Comprehensive Education (B.S.Ed.)
Computer Science K–12 (B.S.Ed.)
Early Childhood Education Pre-K–K–3 (B.S.Ed.)
Earth Science Education (B.S.Ed.)
Elementary Education (B.S.Ed.)
English Education (B.S.Ed.)
History Education (B.S.Ed.)
Languages Education K–12 (French, German, Spanish) (B.S.Ed.)
Latin Education 7–12 (B.S.Ed.)
Mathematics Education (B.S.Ed.)
Music Education K–12 (B.S.Ed.)
Physical Education K–12 (B.S.Ed.)
Physics Education (B.S.Ed.)
Rehabilitation Services (B.S.)
Science Comprehensive Education (B.S.Ed.)
Social Studies Comprehensive Education (B.S.Ed.)
Special Education (Developmentally Handicapped; Specific Learning Disabilities; Multihandicapped; Orthopedically Handicapped) (B.S.Ed.)
Visual Arts Education (B.S.Ed.)
Vocational Business Education (B.S.Ed.)
Vocational Education (B.S.Ed.)
Vocational Marketing 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, 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 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.)
Materials Science and Engineering (B.S.M.S.E.)
Mechanical Engineering (B.S.M.E.)

College of Liberal Arts—see page 111

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.)
Anthropology (B.A.)
Art (B.A., B.F.A.)
Art History (B.A.)
Classical Humanities (B.A.)
Communication Studies (B.A.)
Dance (B.F.A.)
Directing/Stage Management (B.F.A.)
Economics (B.A.)
English (B.A.)
French (B.A.)
Geography (B.A., B.S.)
German (B.A.)
Greek (B.A.)
History (B.A.)
International Studies (B.A.)
Latin (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 Composition (B.Mus.)
Music Education (B.Mus.)
Music History and Literature (B.Mus.)
Music Performance (B.Mus.)
Music Theory (B.Mus.)
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 Work (B.A.)
Sociology (B.A.)
Spanish (B.A.)
Theatre Design/Technology (B.F.A.)
Theatre Studies (B.A.)
Urban Affairs (B.A., B.S.)

*Dual major

College of Science and Mathematics—see page 149

The college offers programs leading to the Bachelor of Science, Bachelor of Science in Medical Technology, 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.)
Chemistry (B.S., B.A.)
Environmental Sciences (B.S.)
Geological Sciences (B.S., B.A.)
Geophysics (B.S.)
Ground Water Technology (B.A.)
Mathematics (B.S., B.A.)
Medical Technology (B.S.M.T.)
Physics (B.S.)
Psychology (B.S., B.A.)

Wright State University-Miami Valley College of Nursing and Health—see page 145

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.)
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
- Business
- Classical Humanities
- Communication
- English
- French
- Geography
- Geological Sciences
- German
- Health Sciences
- History
- International Business
- Mathematics
- Music
- Physics
- Political Science
- Psychology
- Rehabilitation
- Services
- Religion
- Sociology
- Spanish
- Statistics
- Women’s Studies

Certificates

The university offers certificate programs in the following areas: cartography, photogrammetry, and remote sensing; gerontology; information systems (Lake Campus only); international economic affairs; quality assurance; professional writing; teaching English to speakers of other languages (TESOL); and technical writing. Students who are interested in one of the certificate programs should contact their academic advisor for further information.

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 and Associate of Applied Science degree programs. These programs are described in more detail beginning on page 172.

The School of Graduate Studies

The School of Graduate Studies is responsible for 33 master’s degree programs, a post-master’s degree (Educational Specialist), the Doctor of Philosophy degree in biomedical sciences, the Doctor of Philosophy degree in computer science and engineering, and the Doctor of Philosophy degree in human factors and industrial/organizational psychology, as well as courses for certification programs in education, and courses for various certificate programs. Master’s degrees are offered in the following fields of study.

Master of Arts
- Applied behavioral science
- Classroom teacher
- Counseling
- Educational leadership
- English
- History
- Selected graduate studies
- Student personnel services

Master of Business Administration
- Finance
- Financial administration
- Health care management
- International business
- Logistics management
- Management
- Management information systems
- Management science
- Marketing
- Project management

Master of Education
- Classroom teacher
- Educational leadership
- Student personnel services

Master of Humanities

Master of Music
- Music education

Master of Rehabilitation Counseling
- Chemical dependency
- Severe disabilities

Master of Science
- Aerospace medicine
- Anatomy
- Applied statistics
- Biochemistry and molecular biology
- Biological sciences
- Chemistry
- Computer science
- Counseling
- Geological sciences
- Human factors and industrial/organizational psychology
- Logistics management
- Mathematics
- Microbiology and immunology
- Nursing
- 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
- Physics

Master of Urban Administration

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 four 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 grade point average 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 grade point average 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: a wide variety of the general education courses is 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 grade point average 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 diplomas.

The Honors Program also offers opportunities for social, cultural, and leadership development through participation in the Student Honors Association; Service First; the Mid-East Honors Association; the National Collegiate Honors Council; and the University Honors Committee. Maple Hall, located in the Woods Community, serves as the Honors residence hall. Maple features extended quiet hours, special programming, and a computer/study lounge.

Honors students also have the opportunity to become involved in community government. The Honors Program awards scholarships to both incoming and continuing honors students. Small grants are available for students working on honors projects.

Interested students should contact the Honors Program office for further information and applications.

Preprofessional Programs

Premedical and Predental Study

There is no specific preferred major for premedicine or predentistry; thus preprofessional students may choose from a variety of appropriate undergraduate majors. However, a core of common courses is required by most health-professions schools.

Prospective medical or dental school applicants should choose a major in a subject area in which they have a strong interest. Most applicants choose a major in biological sciences or chemistry, but many professional schools are actively seeking qualified students in other areas, such as liberal arts and engineering. There is strong competition for admission to medical or dental schools, and you should have realistic
career alternatives in case you are not admitted to the professional program of your choice.

Planning and performance are the keys to successful admittance to medical or dental school. You should work with an academic advisor to plan your freshman-year program and with a member of the Wright State Premedical Advisory Committee before beginning your sophomore year. Members of the Premedical Advisory Committee help you plan your preprofessional programs and offer guidance in applying to medical, dental, or veterinary school.

The Premedical Advisory Committee also assists Wright State students who plan to apply for admissions to medical, dental, and other health-related professional schools. Committee members gather information on programs, admissions tests, application services, and financial aid, and make that information available to students considering health-related careers. In addition, they prepare committee recommendations for students applying to professional schools.

Suggested Undergraduate Curriculum
Since course requirements vary slightly among schools, it is important for you to consult one of the admission requirements books for the specific requirements of the particular schools you would like to attend. The following courses offered at Wright State meet the admission requirements of the great majority of medical and dental schools, including Wright State University and The Ohio State University medical schools.

BIO 112 Principles of Biology: Cell Biology and Genetics
BIO 114 Organismic Biology
BIO 115 Principles of Biology: Diversity and Ecology
CHM 121 Submicroscopic Chemistry
CHM 122 Macroscopic Chemistry
CHM 123 Reaction Dynamics
CHM 211, 212, 213 Organic Chemistry I, II, III
CHM 215, 216, 217 Organic Chemistry Laboratory I, II, III
ENG 101, 102 Freshman Composition
PHY 111, 112, 113 Principles of Physics
PHY 101, 102, 103 Principles of Physics Laboratory
PSY 105, 110 The Science of Behavior
One year (three courses) of college-level math, including one course in college algebra and one course in trigonometry, is required.

If you are not majoring in biology, you would do well to take one or more additional courses in the life sciences to prepare for the Medical College Admissions Test (MCAT) or the Dental Admission Test (DAT). If you are majoring in the sciences you should take several courses in the liberal arts over and above the university’s General Education requirements. A premedical advisor can help you select courses that are relevant to your career choices and incorporate them into your personal programs of study.

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

To a large extent, admission to law school depends on the basic skills that you master as an undergraduate. The ability to communicate, reason clearly, and think independently are more important than the area of your 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 your 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 Undergraduate Curriculum
The following courses can provide a taste of what the law is about and what those who choose a legal career can expect. You may take as many or as few of these courses as you 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 201, 202, 203 Accounting Concepts and Principles I, II, III
COM 232 Argumentation and Debate
EC 201, 202, 203 Principles of Economics
EC 351 Labor Markets
EC 454 Economics of Collective Bargaining
ENG 240 Intermediate Composition
FIN 301, 302 Business Finance I, II
FIN 303 Case Problems in Financial Management
FIN 332 Real Estate Law
FIN 462 Estate Planning
LAW 350 The Legal Environment of Business
LAW 360 Legal Aspects of Business Organizations
Cooperative Education and Internships

Cooperative education and internships are available through the Office of Career Services, and offer students the opportunity to alternate on-campus study with full-time or part-time educational or career-related work experience. Job placements are monitored by the Career Services staff or by faculty. Academic credit for work experience may be earned in some departments. In all departments, students are required to register with Career Services, and the work experience and employer name are recorded on the transcript.

Through this program, students can gain valuable learning experiences, test career interests, learn more about career fields, and develop job-related skills, as well as earn income for college expenses.

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. 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 classes 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 Programs

Students can combine overseas travel with their academic work through two ongoing Wright State programs.

Through participation in the University Study Abroad Consortium, students can earn credit toward a Wright State degree by studying in Spain, France, Italy, Chile, or Australia. Full- or partial-year programs and summer study are available. Intensive language classes are offered at all levels, along with a range of other classes in history, literature, economics, political science, and other fields.

For more specific information about either the Studies Abroad Consortium or the Summer Exchange Programs, contact the Office of International Student Programs.

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 that pays the student’s tuition, buys all books, and provides $150 a month. Students involved in the Advanced or Professional Officer course would also receive $150 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
ACADEMIC PROGRAMS

Graduate study. Through a special program, advanced placement credit may be given to veterans and JROTC students. Graduate students may also be 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 six-week ROTC Advanced Camp that provides 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 one hour 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 one hour of leadership laboratory each week are required. Summer field training, which emphasizes Air Force careers and leadership development, is four or six weeks long and is normally attended between the sophomore and junior years.

Further information is available in the Department of Military Science and the Department of Aerospace Studies.

University Libraries

The Wright State University Libraries include the Paul Laurence Dunbar Library, the Fordham Health Sciences Library located in the Medical Sciences Building, and the Music Library located in the Creative Arts Building. All libraries are open to those engaged in research using library materials.

The University Libraries are leaders in the pursuit of the electronic library and library partnerships.

- The University Libraries are founding members of the OhioLINK computer network that links Ohio's university library systems, the State Library of Ohio, and several community colleges. OhioLINK allows Wright State students to access books from other libraries within a few days. If books are unavailable at Wright State or through OhioLINK, students may obtain them through interlibrary loan from over 4,000 libraries in the United States or abroad.

  - LIBNET, the Libraries' information research network, provides access to 24 electronic indexes and abstracts, and numerous INTERNET Resources.
  - MOSAIC, one of the most advanced graphical user interfaces, is available on all workstations within the Libraries. MOSAIC provides access to an increased number of INTERNET resources and graphics.
  - The Libraries provide instructional classes for all library services and resources.

Other Services

- Current periodicals and microfilm resources (microfilm readers and printers)
- Course reserves
- Music Library (18,000 scores and over 6,000 musical recordings)
- Reference assistance (individual or group instructions and handouts)
- Special Collections and Archives houses collections on aviation history, aerospace medicine, local and regional history, children's literature illustrated by Arthur Rackham, Wright State University history, and one of the most extensive collections of Wright brothers materials, including more than 4,000 original photographs of the Wright brothers.

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 520,000 bound volumes, over one million microforms, 300,000 government documents, and 4,000 periodical subscriptions. The library is open over 100 hours a week.

As a partial U.S. government documents depository, the library provides students and the general public with access to over 29,600 geographical and topographical maps from all over the United States.
The Fordham Health Sciences Library

The Fordham Health Sciences Library serves as the primary library for undergraduate students in the College of Nursing and Health and graduate students in the Schools of Medicine and Professional Psychology. The Fordham Library contains over 100,000 bound volumes, 1,100 periodical subscriptions, and more than 8,000 microforms. The Learning Resources Center of the Fordham Library contains audio-visual programs related to the health sciences and equipment for viewing or listening to these programs. Video-taped lectures are available for selected courses in the College of Nursing and Health. Private study rooms are also available for College of Nursing students.

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 18- and 19th-century medical books.

Computer Resources

Computing and Telecommunication Services (CaTS) provide connectivity to a wide range of computing and information resources through the campus network. These resources are multi-user systems maintained by CaTS and the College of Computer Science and Engineering (i.e., Hitachi, Digital VAX, UNIX), and include the Wright State University Libraries' catalogs, OhioLINK Libraries' catalogs, electronic mail, and other INTERNET resources.

CaTS provides direct connectivity to the campus network at public workstations located in the basement of the Library Annex. These are student labs with full network services, including word processing, spreadsheets, INTERNET connectivity, and a variety of specific course-related software. These laboratories have a range of printers, scanners, and CD ROMs available for student usage. In addition to these public workstations, many colleges and academic departments provide additional resources for their majors.

All students are eligible to receive an account for access to these systems, thus enabling access to INTERNET resources. For more information on CaTS services and training, contact the CaTS Help Desk in the basement of the Library Annex.
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 and ethical behavior, and encourage healthy relationships and lifestyles. Most of these services are free, and students are invited to visit the offices any time.

Services for Students with Disabilities

Wright State is a leader in providing support services and an accessible campus for students with physical and learning disabilities.

The Office of Disability Services offers physical and academic support services for students with disabilities. Physical support services include attendant care, campus mobility orientation for visually impaired students, and other services to promote independence. Academic support services include test proctoring, taped textbooks, an adapted computer lab, as well as other academic aids.

Students are urged to contact Disability Services before enrolling to plan for necessary support services. The Office of Disability Services also helps students with disabilities plan and implement career choices. A broad range of adapted athletic, intramural, and recreational activities are also available.

International Student Programs

Besides processing admissions and offering orientation to international students, Wright State also assists with off-campus housing and with immigration regulation advising and record keeping. Wright State offers social gatherings, cultural programs, and re-entry counseling for students returning to their home countries, as well as personal advising. International students can also participate in a Multicultural Living Program with special housing on campus, or in a host family program.

Both American and international students can participate in Wright State's consortium study abroad programs in liberal arts and business in Europe, South America, and Australia. Summer cultural exchange programs are offered at WSU sister universities in China, Japan, and Brazil.

Career and Employment Services

Wright State offers a number of services to help students find temporary employment or further their search for career employment through the Office of Career Services. Students may avail themselves of individual career advising, a career resources center, student employment and career employment jobs fairs, and interviewing opportunities. Academic courses are available that focus on career choices, career development, and changing from college to career employment. Students find temporary employment through both the Student Employment and Cooperative Education/Intern/Contract Programs. Through Cooperative Education/Internships, students gain practical, career-related experience that is essential in acquiring career employment upon graduation. Nine months prior to graduation, students participate in on-campus interviews and resume referral for career employment.

Center for Psychological Services

Wright State offers individual and group counseling that is helpful for personal and relationship difficulties such as stress, depression, anxiety, fears, interpersonal conflicts, physical/sexual abuse, traumatic experiences, sexual orientation, self-esteem, loneliness, and test anxiety.

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.

Medical Care

Students who need attention for minor illnesses or injuries may see a nurse in the Office of Student Health Services for no charge (except for lab fees, where applicable). Those who need the attention of a physician are referred to the Frederick A. White Health Center on campus or to a physician off campus for an additional charge.

Public Safety

Public Safety, the official law enforcement agency for the university, provides police services 24 hours a day. Among the services provided are personal escorts, a crime prevention unit, and educational programs that focus on the topics of crime awareness and prevention. 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 Public Safety Communications Center to ensure an immediate response to all potential emergency situations.

**Campus Parking**

Students may purchase permits to park in inner-core campus lots, and resident students may purchase permits to park in residential zones. Perimeter lots provide free parking and are served by a Campus Transit system that also provides transportation from the core campus to the Nutter Center. A $5 per quarter Campus Transit fee is assessed all students on the main campus. Limited parking meters and hourly pay lots also are available. Anyone operating a vehicle on campus must comply with WSU parking regulations and Ohio law.

For information, or to obtain parking permits, contact Campus Parking, E138 Student Union, 875-5690.

**Bolinga Cultural Resources Center**

Opened in 1971 as a tribute to Dr. Martin Luther King, Jr., the Bolinga 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 both individually and through counseling and networking groups such as Black Men on the Move and Black Women Striving Forward.

**Women’s Center**

The Women’s Center serves as an information clearinghouse on women’s issues 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.

**Office of Campus Climate**

The Office of Campus Climate (formerly the Office of Multicultural Affairs) at Wright State University sponsors many programs and resources to help students of diverse backgrounds and cultures understand and accept one another.

With the goal of “Unity Through Diversity,” the Office of Campus Climate works to expose faculty, staff, and students to values, traditions, customs, languages, and mores that represent the many cultures that make up the campus community. The office achieves these goals by sponsoring campus-wide cultural enrichment programs and activities, publishing materials that promote multiculturalism and diversity, and coordinating campus-wide training initiatives to help students, faculty, and staff gain an appreciation of multiculturalism and diversity.

The office also acts as an advocate for students involved in situations or issues created due to biases against gender, socio-economic status, sexual orientation, or ethnic, racial, or religious backgrounds.

The complete texts of Wright State’s equal opportunity/affirmative action and diversity statements are on pages 318 and 319.

**Facilities**

**Student Union**

The Student Union is the student and university community center on campus. The new facility houses study lounges, an expanded bookstore, art gallery, fitness center, arcade, billiards room, swimming pool, gymnasium, meeting rooms, and more. Dining services include the Union Station food court, The Depot convenience store, cafeteria, faculty dining room, and the Rathskeller pub. Entertainment programs are scheduled regularly, ranging from comedians and bands to classical concerts. Incorporating most student service departments into the facility, the Student Union provides easy one-stop access to meet the needs of every student.

**Campus Housing**

Wright State offers six residential communities ranging from traditional two-person rooms to apartment style accommodations for traditional-aged, single students. There is also a community of apartments for graduate students, professional students, nontraditional students, married students, and students with dependents. Nearly 2,000 students live on campus.

**Food Service**

In conjunction with a contracted vendor, Wright State provides food service facilities throughout the campus. Food service outlets range from cafeteria style to fast food chains, such as Burger King®, Taco Bell®, Freshens®, Donato’s®, and Pizza Hut®, and snack shops. A gourmet coffee cart is located in the tunnel walkways. Quarterly food plans are available to students, faculty, and staff, as well as residential students.
Co-Curricular Activities

Sports
The university offers a broad program of both intercollegiate and intramural sports for men and women. Wright State's athletes compete in NCAA Division I and the Midwestern Collegiate Conference. 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, and softball and volleyball for women.

Music
In addition to offering private lessons and academic programs in music, the Department of Music give all students a chance to participate in instrumental and choral ensembles. These groups range from vocal and instrumental jazz ensembles, gospel choir, and several choral ensembles, to the Wright State University Orchestra, the University Chamber Orchestra, and three bands.

Cultural Activities
The University Theatre presents eight major productions, numerous one-act plays, dance performances, and screenings of full-length and student films. The Theatre Department annually sponsors a Big Lens Festival of student films.

The Union Activities Board is a vehicle for students to plan concerts, recreation activities, cinema and video events, and other kinds of student-oriented entertainment.

The University Art Galleries at Wright State schedule exhibitions and events in the Main Gallery and the Experimental Gallery.

The University Artist Series brings internationally known performing artists to the campus throughout the year.

Organizations and Activities
Wright State has more than 150 registered student organizations including:
- Student Government
- Inter-Club Council
- Black Student Union
- University Center Board
- Lambda Union
- National social 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
- Wright Volunteer Program
- Peer 2 Peer Wellness Education

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.

Forensics
Communication students compete in debate and individual speaking events throughout the U.S. Scholarships are available for those with outstanding ability.

Mock Trial Program
Professors in the Department of Political Science advise students in any major who wish to participate in the National Mock Trial Championship through the American Mock Trial Association. Participating students may earn four credit hours in political science over two quarters.

Model United Nations
WSU delegations to the annual National Collegiate Model U.N. Conference in New York have the longest winning tradition of any U.S. university in the competition. Selected WSU students enroll in a political science seminar during winter quarter.

College of Business and Administration
The following academic co-curricular opportunities are offered through the College of Business and Administration: Developing economic education programs through Students in Free Enterprise, sponsored by the Department of Management; the student chapter of the Society for Human Resource Management; a regional competition of the American Advertising Federation; and a management accounting case competition sponsored by the Institute of Management Accountants.

Computer Science and Engineering
The Department of Computer Science and Engineering supports active student chapters of the IEEE Computer Society and the Association for Computing Machinery, which competes in the annual ACM Scholastic Programming Contest.

Chemistry
WSU's Chemistry Club competes in the American Chemical Society’s national recognition of club activities.
The process for becoming a new student at Wright State University involves several important steps, which at first can seem intimidating. This section describes and explains these steps so that you can better understand and follow the process, and make informed decisions about services that might help you in making your decisions. A summary of services and offices discussed in this section is provided on page 41, along with phone numbers, if you have further questions.

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

When students are admitted into an academic unit—be it University Division, the Office of Adult and Transfer Services, an academic department, a college, or a school—they are advised by a professional advisor or faculty member in that academic unit. Specific information about advising will be provided in the student’s letter of admission.

**Admission**

Ohio students who have graduated from an accredited high school or who have passed a high school equivalency test (GED) are eligible to enter Wright State University. Out-of-state students, however, must present evidence of above-average ability to do college work in addition to meeting regular admission requirements.

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**

While Wright State University adheres to an open admission policy as provided in the Ohio Revised Code, the university has adopted a college preparatory curriculum policy. The university requires students to have a high school record that meets the recommendations of the Report of the Advisory Commission on Articulation between Secondary Education and Ohio Colleges. Students who do not meet these requirements will enter the university under a directed advising program and will be required to remove any deficiencies before they can graduate from Wright State.

The following table summarizes the requirements and indicates how deficiencies may be removed. In this table, “high school” is defined as grades 9–12, and a “unit” is one academic year of course work.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Removal of Deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong> four units</td>
<td>Pass ENG 101*</td>
</tr>
<tr>
<td><strong>Mathematics</strong> three units (including Algebra I and II)</td>
<td>Pass MTH 127*</td>
</tr>
<tr>
<td><strong>Social Sciences</strong> 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><strong>Science</strong> three units</td>
<td>Complete the general education requirement in natural sciences. A one-term lecture/lab course removes up to one unit of deficiency.</td>
</tr>
<tr>
<td><strong>Foreign Language</strong> 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><strong>Arts</strong> 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 below.
† 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. College Preparatory Curriculum Completion Form (for all new graduates of high school in 1987 or after)
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
4. High school graduates in 1987 or after who have fewer than 45 quarter hours of transfer credit must also submit:
   a. final high school transcript or official GED scores
   b. College Preparatory Curriculum Completion 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 grade point average. Students who do not have a grade point average of 2.0 at the last college they attended must petition for admission. In addition to completing the application process outlined above, students must submit a petition form (available from the Office of Undergraduate Admission). Students who have been dismissed from another institution will usually not be considered for admission to Wright State for one calendar year; in the case of unusual circumstances, students may appeal to the University Admissions Committee to have the one-year waiting period reduced.

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 3-credit hour courses in English composition may be considered the equivalent of ENG 101 and 102 (8 credit hours).
7. 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 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 Division'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. A transfer student wishing to graduate from Wright State with Honors (summa cum laude, magna cum laude, or cum laude) will have his/her cumulative GPA for transfer hours combined with his/her cumulative GPA for all Wright State hours to determine Honors eligibility.

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. For example, a student who completes the Transfer Module at Sinclair Community College and then transfers to Wright State University is said to have completed the Transfer Module portion of the university's general education program and will only need to complete one regional studies course to complete the general education requirements at Wright State.

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 College of Business and Administration at Wright State University should take EC 201, 202, and 203 (or equivalent courses at another institution) rather than the EC 200 course listed as a part of the Transfer Module. Because of specific major requirements such as these, early identification of a student's intended major is encouraged. Advisors at the institution to which a student wishes to transfer should be consulted regarding Transfer Module and 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 courses in which they received a passing grade of D or better. Students must have an overall grade point average 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 grade point average 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 both their advisor and from the college or university to which they plan to transfer.

Wright State University’s Transfer Module

Wright State’s Transfer Module consists of 54 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 57 credit hours, which include the Transfer Module and one additional course as listed below. 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>To Complete General Education Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English Composition</strong></td>
<td><strong>ENG 101-4</strong></td>
</tr>
<tr>
<td></td>
<td><strong>ENG 102-4</strong></td>
</tr>
<tr>
<td></td>
<td>8 credits</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td><strong>MTI 105-3</strong>*</td>
</tr>
<tr>
<td></td>
<td>3 credits</td>
</tr>
<tr>
<td><strong>Arts/ Humanities</strong></td>
<td><strong>HIST 101-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>HIST 102-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>HIST 103-3</strong></td>
</tr>
<tr>
<td></td>
<td>Choose one:</td>
</tr>
<tr>
<td></td>
<td><strong>ENG 204-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PHL 204-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>REL 204-3</strong></td>
</tr>
<tr>
<td></td>
<td>Choose one:</td>
</tr>
<tr>
<td></td>
<td><strong>ART 214-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>MUS 214-3</strong>*</td>
</tr>
<tr>
<td></td>
<td><strong>TH 214-3</strong></td>
</tr>
<tr>
<td><strong>Social and Behavioral Science</strong></td>
<td><strong>SOC 200-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>PLS 200-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>EC 200-3</strong>*</td>
</tr>
<tr>
<td></td>
<td><strong>PSY 105-4</strong>*</td>
</tr>
<tr>
<td></td>
<td>Choose one:</td>
</tr>
<tr>
<td></td>
<td><strong>RST 260-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>RST 270-5</strong></td>
</tr>
<tr>
<td></td>
<td><strong>RST 280-3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>RST 290-3</strong></td>
</tr>
<tr>
<td><strong>Natural and Physical Science</strong></td>
<td><strong>Choose one sequence:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>BIO 105-4, 106-4, 107-4†</strong></td>
</tr>
<tr>
<td></td>
<td><strong>CHM 105-4, 106-4, 107-4†</strong></td>
</tr>
<tr>
<td></td>
<td><strong>GL 105-3/115-1, 106-3/116-1, 107-4†</strong></td>
</tr>
</tbody>
</table>

*Approved course substitution available; see the section on General Education Requirements on pages 49–54.
†Approved sequence substitution available; see the section on General Education Requirements on pages 49–54.
International Students

Wright State welcomes applications from qualified international applicants. Nearly 360 students on F-1 and J-1 student visas currently attend the university. Application materials are available at the Office of International Student Programs. 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 is required for admission. The College of Engineering and Computer Science requires a score of 530. Non-native 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. International students, once admitted, may be required to deposit with the university a full year’s tuition before they will be sent a student visa form.
4. To be considered for admission, international students already in the United States who wish to transfer from another university must be “in status” according to the U.S. Immigration and Naturalization Service. 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 Division for further placement testing information.

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; see the section on Readmission on page 47.

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 grade point average 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. Nondegree work normally can be applied toward a degree program.

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

Teacher Certification Candidates

College graduates who wish to become certified as teachers must apply for admission, file all the necessary credentials, pay the application fee, and complete the college admissions process as described on page 77.

Undergraduate students and students who receive degrees from other colleges within the university may also obtain teaching certificates upon completion of all the requirements of the College of Education and Human Services.

Superior High School Students

High school students who have completed their sophomore year may take courses at Wright State while still enrolled in high school. For specific information about the program, contact the Office of Undergraduate Admissions.
Orientation

The new student orientation program at Wright State is designed to help students make a successful transition to university life. Four major orientation programs are held each year to meet the varying needs of the student population. All first-year students under the age of 23 with no previous college experience attend a two-day, comprehensive, overnight program in June and July to prepare them for fall quarter. These students receive information in early May describing the summer program and outlining the orientation dates. Students have the opportunity to choose the session they wish to attend.

During orientation, students are introduced to the university and learn about its resources. Students complete placement testing, receive academic advising, and register for fall quarter as part of the orientation process. They also meet other students, experience university life, and discuss contemporary campus issues relating to student life, including multiculturalism and diversity. Ninety percent of first-year students attend summer orientation. A concurrent parent session is conducted with each orientation to acquaint parents with campus life. The Wright State University Parents’ Association assists with these parent orientations, giving participants the opportunity to network with other parents.

Before the beginning of fall quarter, a separate orientation program is held for students 23 years of age and older. Students participating in this half-day session meet other students, learn more about university resources, discuss contemporary campus issues, and share ideas on how to balance work, family, and school.

Transfer students under the age of 23 and those students who are admitted after the summer orientation can attend a one-day program immediately before fall quarter begins. This fall program is similar to the summer orientation, but does not include placement testing or registration. Additional focus sessions are held annually for all new students immediately before winter and spring quarters to assist them with the successful transition to university life.

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 orientation will undergo testing and registration as part of the summer orientation process.) Directions for academic advising and registration will be given at the placement testing session. The University Division conducts placement testing in mathematics, reading, and writing for undergraduate students who are new to the university.

Mathematics Placement Testing

All students (new, transfer, and continuing), without credit for a college math course completed within one calendar year, are required to take the math placement test. Appropriate course enrollment is then determined based on these scores. Math test scores are valid for one year from the time the test is taken.

Retesting is required for continuing students who do not pass a math course within a calendar year.

Transfer students who have earned college credit in mathematics at a grade of C or above within the past year do not need to take the exam. In addition, students transferring from Clark State, Edison State, or Sinclair Community College who have completed all required developmental mathematics courses within the past 12 months need not take the math placement exam.

Reading and Writing Placement Testing

All students preparing for their first English composition course in higher education are also required to take reading and writing placement examinations.

Transfer students who have earned college credit in English composition at a grade of C or above need not take the writing exam. In addition, transfer students from Clark State, Edison State, and Sinclair Community College who have satisfactorily completed all required developmental reading and writing courses need not take the exams.

Writing—Students enter Wright State with very different abilities in English. To give every student the best possible instruction in writing, several courses have been developed, ranging from Honors sections of Freshman English 101 to SS 072, 082, and 092, which are noncredit courses for students needing more extensive instruction in writing than the two-quarter ENG 101/102 sequence can provide. The placement procedure (the development of an essay) exists to allow us to give students the instruction most appropriate for their writing abilities upon entering the university.

Reading—In order to meet the reading demands of the general education curriculum, it is imperative that students be given an opportunity to remove deficiencies in their skills. Four courses have been developed—SS 071, 081, 091 “Improving College Reading,” and SS 094 “Critical Reading”—to give every student the best possible instruction in reading. The placement procedure exists to give students the
Advising

Once admitted to the university, students receive advising as a prelude to registering for classes. Academic advisors help students with selecting courses, scheduling classes, academic matters, and orientation to the university. 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 25 or older. In addition, University Division’s Academic Advising Center and Adult and Transfer Services advisors help degree-seeking students focus on their university general education requirements and fulfill the admission requirements of their selected major.

Nontransfer Students Enrolling for Fall Quarter

New Student Orientation Program

Most nontransfer students enrolling for fall quarter choose to attend the New Student Orientation Program, during which they take their placement tests, receive academic advising from a University Division Academic Advising Center advisor, and register for their fall classes. The two-day program is held in June and July on campus, and students stay overnight in university housing. Orientation includes sessions concerning various aspects of college life.

New Student Group Advising

Students who do not attend the New Student Orientation Program will visit campus twice, once to take their placement tests and a second time for New Student Group Advising in August or early September (exceptions can be made for those living a great distance from campus). During the two- to three-hour group advising session, students will receive academic information from a University Division Academic Advising Center advisor and register for their fall classes. Group advising students are invited to attend a one-day orientation program in September before classes begin.

Nontransfer Students Enrolling for Other Quarters

All new students beginning winter, spring, or summer quarters will follow the procedures outlined under New Student Group Advising as stated above: take placement tests one day and then return later for group advising and registration, with an optional orientation program available before the quarter begins.

Adult and Transfer Students

The Office of Adult and Transfer Services provides a starting place for adults who are beginning or reentering college and for students transferring into Wright State University. The office’s services introduce students to the university system and provide information, support, and referral resources.

Adult and Transfer Services staff assist students age 25 or older who are returning to the university to complete a degree, begin a degree, or plan a career change. The services include academic and career exploration, referral to university and community services, and support in managing change.

Transfer students follow the procedures of the academic unit to which they are assigned upon admission to the university. Students who have a declared major, and have already met the admission requirements to enter the school or college that houses that major, will meet with their faculty or professional advisor after completing any required placement tests.

Transfer students who do not have a declared major, or who do but have not yet met the admission requirements for that major, are assigned to the University Division’s Academic Advising Center or to the Office of Adult and Transfer Services. In either case, after placement tests (if required), transfer students will need to meet with their assigned University Division or Adult and Transfer Services professional advisor for academic information in preparation for registration.

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 a financial aid package.
Financial aid, with the exception of four-year scholarships, is granted on a three-quarter basis (summer financial aid requires completion of a separate summer financial aid application). 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), and a Wright State University financial aid application.

Application deadlines for the following programs vary, so it is essential that individuals contact the Office of Financial Aid for specific dates and additional details.

Scholarships

Scholarships are a form of gift aid that do not require repayment. They may be based on academic excellence and/or financial need. Applications for scholarships supported by local industries, foundations, and agencies should be obtained directly from those organizations.

Scholarships for Incoming and Transfer Students

Wright State has developed a scholarship program that recognizes students’ academic accomplishments, involvement in extracurricular activities, and creative talent. Transfer scholarships and incoming student scholarships are renewable as long as the recipient maintains a 3.0 cumulative grade point average and earns 45 hours of credit per academic year. Some level of participation in the Honors Program may be required of all transfer and incoming scholarship recipients.

Incoming and transfer scholarship applications are available through the Office of Admissions at Wright State University, the counseling office of any area high school, or the Office of Financial Aid at Wright State. To be considered for scholarships based on financial need and merit, students must complete the Wright State University Financial Aid Application and the Free Application for Federal Student Aid (FAFSA) by March 1. The majority of scholarships offered by Wright State are based on merit, not financial need.

Applications for honors and competitive incoming scholarships must be received in the Office of Financial Aid by February 1. The deadline for academic performance and transfer scholarship applications is March 1.

Continuing students of Wright State can also access information on outside scholarships through Fund Finder, a free, computerized scholarship search designed to list information on specific scholarships and application requirements. This service is located in room 026 in the annex of WSU’s Paul Laurence Dunbar Library.

Scholarships for Continuing Undergraduate Students

Continuing students who have demonstrated strong academic achievement at Wright State may apply for scholarships supported by the Wright State University Foundation and the Campus Scholarship Campaign, and for departmental scholarships. Applicants compete for these scholarships with other scholarship applicants who are enrolled in their own college, department, or professional school, and are selected by a committee composed of faculty members in their college, department, or professional school. Scholarships range from $300 to $1,500 and are awarded for one year.

Continuing undergraduate students must return their scholarship applications to the Office of Financial Aid by April 1. Applications for continuing undergraduate scholarships are available through the Office of Financial Aid at Wright State.

Named Scholarships

For specific information about any of the following scholarships, contact the Coordinator of Scholarships in the Office of Financial Aid.

College of Business and Administration

American Business Club
Bank One Lending Hands Grant
Cargill Accountancy Scholarship
James W. Blain Accountancy Scholarship
Business Alumni Scholarship
Dayton Advertising Club Scholarship
Thomas E. Kreusch Scholarship
The Howard L. Magner Accountancy Scholarship
The JoAnn Self Memorial Scholarship
Jacob P. Paperman Award
Shumsky Enterprises Scholarship
Barbara Kirk Stickney Scholarship
Sharon K. Sutton Scholarship
Robbins & Myers Scholarship
Rust/Cheri Gray Memorial Fund
WSU Finance Club Scholarship

College of Education and Human Services

Alpha Delta Kappa, Ohio Epsilon Scholarship
Department of Teacher Education Scholarship
David M. Berry Memorial Endowed Scholarship
The Betty Hathaway Scholarship
Haverstock Scholarship
Gerald A. Kurdilla Scholarship

College of Engineering and Computer Science

The Adams-Robinson Construction Company
Endowed Scholarship (Wright STEPP)
The Amcast Industrial Engineering Scholarship
The Association for Unmanned Vehicle Systems Scholarship
Kittyhawk/Dan Graves Scholarship
Atlantic Research Scholarship
The John A. Becker Electric Company 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 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 submit a Wright State University Financial Aid Application and a 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 first mailed to the Federal Processing Center on or before March 1 with Wright State listed to receive the processed data. The FAFSA and the Wright State Financial Aid Application (and financial aid transcripts, if necessary) must be received by the Office of Financial Aid by April 1.

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 (formerly the National Direct Student Loan), refer to the paragraph on priority consideration.

Students apply for the Subsidized and Unsubsidized Stafford Student Loan (variable interest) by completing the Free Application for Federal Student Aid (FAFSA) and the Wright State University Financial Aid Application.
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 5 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 the Office of 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. There are no financial eligibility requirements for students who wish to work under the regular employment program. Students may also be employed off-campus. There are no financial eligibility requirements to obtain an off-campus job.

**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.

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 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.

### 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. 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 windows 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 receive additional registration information in their campus mailboxes located in Allyn Hall Lounge. Students who are not currently registered, but who have been registered anytime during the past year, will receive additional registration information in the mail.

**Paying Fees**

Students will find fee payment information and deadlines in the quarterly class schedule. Students who register early but do not pay the fees by the required due date will have their registration canceled in order to make classroom space available to other students. Mailed payments received after the deadline will be returned.

Students may pay fees by check or money order, made payable to Wright State University, and sent to the Office of the Bursar. Students may also use Discover, MasterCard, or Visa credit cards to charge most fees paid to the university. In addition, students have the option of using the Student Installment Payment Plan (SIPP) to spread quarterly fees for tuition, insurance, and university housing (if applicable) over a three-month period.

**Refunds**

A current schedule of refund dates and other information about refunds can be found in the quarterly schedule of classes and in the Office of the Registrar.
### Fee Schedule (1994–95)*

<table>
<thead>
<tr>
<th>Quarterly Fees for Undergraduate Students</th>
<th>Main Campus</th>
<th>WSU–Lake Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 10.5 hours/per hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional and general fees</td>
<td>$101</td>
<td>$91</td>
</tr>
<tr>
<td>Nonresident tuition/add to above†</td>
<td>101</td>
<td>101</td>
</tr>
<tr>
<td>Total: Ohio resident</td>
<td>$101</td>
<td>$91</td>
</tr>
<tr>
<td>Total: Nonresident</td>
<td>202</td>
<td>192</td>
</tr>
</tbody>
</table>

| 11 through 18 hours‡                      |             |                 |
| Instructional fee                         | $869        | $862            |
| General fee                               | 209         | 103             |
| Nonresident tuition/add to above†         | 1,078       | 965             |
| Total: Ohio resident                      | $1,078      | $965            |
| Total: Nonresident                       | 2,156       | 2,043           |

* Fee schedules are subject to change depending on action by the state legislature and approval by the Ohio Board of Regents and the University Board of Trustees. The quarterly fees listed here for the main campus and the Wright State University–Lake Campus are those in effect when this catalog went to press. For an up-to-date list, contact the Office of the Registrar.

† Nonresidents of the state of Ohio must pay a nonresident fee in addition to other fees and charges. If you are unsure of your status as a resident of Ohio, see the Appendix on page 314, which lists criteria for Ohio residency, or consult with the Office of the Registrar, 513/873-5588.

‡ The hourly rate applies to all credit hours in excess of 18.

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### Academic Assistance Services

#### Developmental Education

The Office of Developmental Education provides study skills courses in reading improvement, critical reading, basic writing and fundamental English, basic mathematics, and study strategies for students who need to improve their skills in these areas 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 Freshman Seminar. One nongraduation credit hour is earned for the strategies course and two hours of graduation credit for the seminar. For each of the other study skills courses, three to six hours of nongraduation 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 receive one hour of tutoring each week free for any freshman-level or General Education class. For additional tutoring or for tutoring in upper-level classes, the student may need to pay the tutor directly. 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.

Writing Assistance

The University Writing Center provides the services of free graduate and undergraduate writing consultants, who help students to write clearly and to think clearly at every level and in every major. The Center has 15 networked computers equipped with several programs. Consultants are available to show students the basics.

Students can also attend the Center’s free workshops during the quarter. These workshops review the formats required by different departments for research papers, prepare students for essay exams, and help them to brush up on grammar and punctuation. The Center also offers a writer’s hotline during the week.

<table>
<thead>
<tr>
<th>Summary of Services and Office Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission Information: Office of Undergraduate Admissions, 873-5700</td>
</tr>
<tr>
<td>Financial Aid Information: Office of Financial Aid, 873-5721</td>
</tr>
<tr>
<td>Placement Testing dates, locations, exemptions: University Division, 873-5771</td>
</tr>
<tr>
<td>New Student Orientation Program registration information: Office of New Student Orientation, 873-5570</td>
</tr>
<tr>
<td>Advising Appointments: (call student’s assigned advising unit) University Division, Academic Advising Center, 873-5750; Office of Adult and Transfer Services, 873-5777; for College or School, see listing on inside front cover</td>
</tr>
<tr>
<td>Course, Registration, and Refund Information: Office of the Registrar, 873-5588, and Raider Express Telephone Registration, 873-4400</td>
</tr>
<tr>
<td>Fee Payments: Office of the Bursar, 873-5650</td>
</tr>
<tr>
<td>Academic Support —for individual or group help: Tutoring Services, 873-2280; Writing Center, 873-2158 —for courses in study skills and/or fundamental math, reading, and writing: Developmental Education, 873-5770 —for disabled students adapting to college: Office of Disability Services, 873-5680 —for students age 25 or older returning to school, Office of Adult and Transfer Services, 873-5777</td>
</tr>
</tbody>
</table>
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 183 credit hours must be earned in approved courses.

Grade Point Average—At least 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, as explained on pages 49–54, must be completed.

Residence Regulations—A minimum of 45 credit hours must be earned at Wright State University. 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 Division, 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.

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. Students earning a second degree must earn at least 45 credit hours beyond the minimum hours required for the first degree. At least the last 45 hours of course work are to be taken at Wright State, 23 of which must be in courses numbered 300 or above.

Graduating With 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 grade point average of at least 3.8; magna cum laude (with high honors) indicates a cumulative grade point average of at least 3.6; and cum laude (with honor) indicates a final cumulative grade point average of at least 3.4.

Academic honors are based on meeting the minimum honors grade point average 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 grade point averages for the purpose of graduating with honors, only the first grade earned for a course will be counted. To be eligible for academic honors at graduation, students must have earned at least 45 credit hours at Wright State University.

Applying for Degrees

Before graduating, students must submit an application for a degree. Applications must be filed by the end of the early registration period for the quarter in which graduation will take place. See the current class schedule for specific details. 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 may participate in the June commencement. Those who complete their degree requirements during summer or fall quarters may 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.

The minimum full-time undergraduate load is 12 credit hours per quarter with the average between 14 and 17 credit hours.

Students may drop a course or withdraw from the university without grades through the third week of the quarter, or its equivalent. These courses will not be recorded on transcripts. From the fourth through eighth weeks, or their equivalents, freshmen may drop a course or withdraw, but the course and a designation of "W" will appear on their records. All students other than freshmen may drop a course or withdraw from the fourth through the fifth weeks, or their equivalents, but the course and a designation of "W" will appear on their record. (Students should see the quarterly class schedule for the exact drop and withdrawal dates.) After the withdrawal date, students need to successfully petition to drop; otherwise, the course will appear on their records with a grade.

Grading System

Academic achievement is indicated by the following letter grades and points used in calculating grade point averages.

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
<th>Points per Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Poor</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failed</td>
<td>0</td>
</tr>
<tr>
<td>X</td>
<td>Student did not complete course or officially withdrew</td>
<td>0</td>
</tr>
</tbody>
</table>

A student's grade point average 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 grade point averages:

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
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 considered equivalent 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 grade contract.

T Attended—this grade is used only for honors courses. These hours are not counted toward graduation.

W Withdrew—given for courses from which the student withdrew or 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 sent at the end of each quarter to the addresses on file in the registrar's office. Students who notice any discrepancy on their reports should contact the Office of the Registrar within 30 days.

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.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0–44.9 hours</td>
</tr>
<tr>
<td>Sophomore</td>
<td>45–89.9 hours</td>
</tr>
<tr>
<td>Junior</td>
<td>90–134.9 hours</td>
</tr>
<tr>
<td>Senior</td>
<td>135 hours or more</td>
</tr>
</tbody>
</table>
Entering a Major

All University Division students with a cumulative grade point average of 2.0 or higher must enter a major within a college or school 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.

Dean's List

Students who attain high grade point averages during a quarter are placed on the Dean's List. To be named to the list, students must have at least a 3.4 grade point average 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 grade point average of 2.0 or higher, or who have not been on mandatory advising for more than two consecutive quarters, are considered to be in good standing.

Mandatory Advising

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

Students who are on mandatory advising 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, course repeats, and to restrict enrollment, and 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.

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 grade point average 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 grade point average.

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, but the hours and points for the repeat will not be calculated in their hours earned or in the determination of their cumulative grade point average. 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, school, or division.

In calculating cumulative grade point averages 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 grade point average at the date of graduation. They may repeat a course later, but the second grade will not affect their undergraduate grade point average.

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 mandatory advising 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 a petition for readmission.

Readmission petition forms may be obtained from, and must be submitted through, the Office of Undergraduate Admissions. To be readmitted, the student must be accepted by a college, school, or division. Readmission petitions are reviewed by the chief academic officer or the petitions committee of the appropriate school, 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.

Petitioning for Exceptions

Exceptions to scholastic regulations may be petitioned to the University Undergraduate Student Petitions Council. 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.
GENERAL EDUCATION REQUIREMENTS
General Education at Wright State

A bachelor's degree awarded by a university implies more than career preparation or specialized technical competency. A university education should be broadly based in order to promote intellectual growth, cultivate informed understanding, encourage breadth and flexibility of perspective, and foster a critical examination of social, cultural, and scientific realities. Accordingly, the General Education program at Wright State University seeks to:

- sharpen critical thinking, problem solving, and communication skills as a basis for lifelong learning;
- cultivate an awareness of the moral and ethical insight needed for participation in the human community;
- increase knowledge and understanding of the past, of the world in which we live, and of how both past and present have an impact on the future.

These purposes are embodied in a program covering a broad spectrum of skills and knowledge, and organized to provide a coherent educational experience.

As a part of the requirements for a baccalaureate degree at Wright State University, students must complete a minimum of 57 hours of course work in the General Education program. The specific requirements are listed below and must be completed prior to graduation. In general, courses numbered 100 should be taken during the freshman year, and courses numbered 200 should be taken during the sophomore year; however, some programs at the university allow students to take the General Education courses throughout the four years of enrollment. Students should complete English 101 and 102 and the General Education mathematics requirement by the time they have earned 60 credits at Wright State University (see the section on Completing General Education Requirements on page 56).

Note: Students may also be required to complete a proposed Writing Across the Curriculum Program as part of their general education and their major studies. At the time this catalog went to press, this requirement was under consideration by the University Academic Council and by the university faculty.

Substitutions

Substitutions can be made for some General Education courses. Some major programs—as well as the preprofessional programs for premedical and predental students (see the section on Preprofessional Programs in chapter 2)—may have program requirements that will affect a student's choice of General Education courses. Approved substitutions listed below are open to any student as an option to the General Education course with which they are listed.

Honors Sections

Honors sections of General Education courses are available for both entering freshmen and continuing Wright State students who meet Honors Program criteria. Honors sections are limited to an enrollment of twenty, encourage student participation, offer more sophisticated and complex assignments, and provide greater opportunities for analysis, synthesis, and creative expression. Honors students may also choose to substitute UH 201, 202, and 203 for some General Education courses (see below). For more information see the section on the University Honors Program on page 19.

General Education Requirements

Area One—Communication and Mathematical Skills

11 hours

Area One requirements help students develop a command of written communication, disciplined thought processes, and the ability to manipulate abstract and mathematical concepts.

ENG 101-4 Freshman Composition
Concentrates on the writing process and its applications, stressing clarity, conciseness, and correctness.

ENG 102-4 Freshman Composition
Continues focus on the writing process, stressing principles of argumentation and academic research techniques. Prerequisite: Grade of C or better in ENG 101.

MTH 105-3 Mathematics and the Modern World*
Applies mathematics to modeling real world problems from the behavioral, computational,
managerial, and social sciences. Includes such topics as graph theory, linear programming, probability, descriptive and inferential statistics, voting systems, game theory, population growth, computer algorithms, and codes and data storage. Prerequisite: Three years of college preparatory mathematics including Algebra II and at least Level 4 on the math placement test; or equivalent.

Substitutions: MTH 228 or MTH 229 and 230 or STT 264, 265 or STT 160

Area Two—The Western Experience
15 hours

Area Two requirements help students develop a historical perspective and aesthetic appreciation through studying the Western heritage, including its written record and artistic achievements, in relation to contemporary culture.

The Western World
(All required)

HST 101-3 The Western World: The Ancient and Medieval Eras
An examination of the character of the premodern world from prehistory through the fourteenth 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.

HST 102-3 The Western World in Transition: The 14th–18th Centuries
An examination of the roots of the modern Western world emphasizing the revolution in economic, political, religious, and demographic realities that occurred between the fourteenth and the eighteenth centuries. Prerequisite: HST 101.

HST 103-3 The Modern Western World: The 19th–20th Centuries
An 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 nineteenth and twentieth centuries. Prerequisite: HST 102.

Great Books of the Western World
(Choose one)

ENG 204-3 Great Books: Literature
An introduction to selected masterpieces of poetry, drama, and fiction from the Western literary tradition, from the Greeks to the twentieth century, viewed in their historical context and for their enduring interest.

PHL 204-3 Great Books: Philosophy
An introduction to selected great books in the history of Western philosophy, chosen from each of three eras (ancient/medieval, modern, and contemporary) and examined both within their respective historical frameworks and as an exercise in critical thinking.

REL 204-3 Great Books: The Bible and Western Culture
A 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.

Substitution: Honors students may meet the Great Books requirement with UH 201.

Fine and Performing Arts
(Choose one)

ART 214-3 Visual Art in Western Culture
A general 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.

MUS 214-3 Music in Western Culture*
An 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.

Substitution: MUS 121 and 122.

TH 214-3 The Theatre in Western Culture
An 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.

Substitution: Honors students may meet the Fine and Performing Arts requirement with UH 201.
Area Three—The Non-Western World

6 hours

Through a comparative and regional study of non-Western cultures, Area Three requirements help students develop an understanding of cultures other than their own and of the realities of global interdependence.

Comparative Studies (Choose one)

CST 220-3 Comparative Non-Western Environments
An examination of distinctive environments of Asia and Africa through analysis of geographic patterns of land use, population, settlements, economic activities, languages, religions, and political systems.

CST 230-3 Comparative Non-Western World Views
An examination of the world views of selected non-Western peoples and their varied expression in literature and religion, emphasizing examples from Asia, Africa, Latin America, and the Middle East.

CST 230 Comparative Non-Western Literature
An introduction to selected non-Western literature from Asia, Africa, Latin America, and the Middle East, emphasizing common cultural, social, and political themes.

CST 230 Comparative Non-Western Religions
An introduction to non-Western religious world views, their expression, and their communication, using examples from Africa, Asia, Latin America, and the Middle East and exploring differences between major types of cultures and religions.

CST 240-3 Comparative Non-Western Cultures
An introduction to the cultural diversity and uniqueness of selected areas of Asia, Africa, Latin America, and the Middle East as reflected in their cultural systems or in particular cultural manifestations such as the arts.

CST 240 Non-Western Cultural Systems
An introduction to non-Western cultural systems with examples drawn from several regions of the world, emphasizing how non-Western societies have addressed universal human problems and adapted to changing world conditions.

CST 250-3 Comparative Non-Western Social Systems
An examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues.

CSE 250-3 Comparative Non-Western Economic Systems
A comparison of the economic systems in Asia, Africa, Latin America, and the Middle East with the Western system with which most students are familiar; emphasis on developing and socialist economies and on contemporary problems, including technological change and resource development.

CST 250 Comparative Non-Western Political Systems
A comparative study of the political processes, institutions, ideologies, and contemporary issues in non-Western societies, emphasizing the relationships between culture and politics.

Regional Studies (Choose one)

RST 260-3 Regional Studies: Asia
An introduction to the environments, human organizations, and populations of selected regions or countries in Asia, providing an overview of the region with focus on a particular part of the region such as Japan, China, or South Asia.

RST 260 Asia: Japan
A brief introduction to Asian environments, population distribution, and human organizations and a detailed examination of economic, geographic, political, religious, and social aspects of Japan.

RST 260 Asia: China
A brief introduction to Asian environments and cultures and a detailed examination of the development of China and of the conflict between traditional values and cultural patterns and current development efforts.

RST 260 Asia: South Asia
A brief introduction to the culture and society of Asia and a detailed examination of the themes and structures that unify South Asian culture.

RST 270-3 Regional Studies: Africa
An introduction to African environments, diversity of cultural heritages, changes due to modernization, colonialism, slavery, and independence with a brief survey of the relations of Africa to other non-Western regions and the contributions of Africa to world civilization.

RST 280-3 Regional Studies: Latin America
A survey of non-Western societies, including Indians, mestizos, blacks, and the peasantry, from pre-Columbian and African origins to the present, in terms of ideology, organization, social structure, culture, and economic activities.
RST 290-3 Regional Studies: The Middle East
An introduction to the history, peoples, cultures, and geography of the Middle East, from Mauritania to Pakistan, from the seventh century to the present.

Area Four—
Understanding the Contemporary World
25 hours

Area Four requirements help students develop an understanding of the physical world, of the relationship of science and technology to society, of individual development, of institutions and their impact on individuals, and of the methodologies used in studying these matters.

Natural Sciences
(Choose one sequence)

Biology Sequence*
BIO 105-4 Cells, Genes, and Genetics
A study of cells and genetics to provide the focus for examining the unique interactions of matter, energy, and information which produce life and provide for its continuity and change. 3 hours lecture, 2 hours lab.

BIO 106-4 Evolution and Ecology
An examination of the interactions between organisms and their environments that determine the abundance, forms, and adaptations of species in space and time. 3 hours lecture, 2 hours lab. Prerequisite: BIO 105.

BIO 107-4 Human Biology
An examination of the organization and function of the human body throughout the cycle of life. 3 hours lecture, 2 hours lab. Prerequisite: BIO 106.

Sequence Substitution: BIO 112, 114, and 115. Honors students may substitute UH 203 for BIO 107.

Chemistry Sequence*
CHM 105-4 Chemistry of Our World: Living Things
An examination of the principles of covalent bonding and of the structures and reactions of molecules of importance to living things, with attention to the technological, regulatory, and social complexities of problems related to them. 3 hours lecture, 2 hours lab.

CHM 106-4 Chemistry of Our World: Materials
An examination of the bonding of metals and nonmetals to explain the nature of familiar materials of industrial importance with some attention to the risk-benefit implications of these materials and technologies for consumers. 3 hours lecture, 2 hours lab. Prerequisite: 3 units of high school science or CHM 105 or CHM 101.

CHM 107-4 Chemistry of Our World: Energy and the Environment
An examination of the gaseous and liquid states and thermochemistry as a basis for understanding air and water quality, and fossil and nuclear fuels with some attention to the chemistry of the solar system. 3 hours lecture, 2 hours lab. Prerequisite: CHM 106 or CHM 101.

Sequence Substitution: CHM 121, 122, and 123 or CHM 101 and 102 and BMB 250 and PHR 340. Honors students may substitute UH 203 for CHM 107.

Geological Sciences Sequence*
GL 105-3 The Planet Earth
An 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 operated to produce the earth, its minerals, rocks, landforms, and economic mineral fuel deposits. Concurrent registration in GL 115 required.

GL 115-1 The Planet Earth Laboratory
Study of rocks and minerals; field trips, map interpretation; and practical work on ground water, glaciation, and structural geology. Laboratory component for GL 105.

GL 106-3 The Evolving Earth
An 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. Concurrent registration in GL 116 required. Recommended preparation: GL 105.

GL 116-1 The Evolving Earth Laboratory
Exercises on time measurement, correlation of stratified rocks, evolution and biological diversity in the fossil record, and paleontology. Field trip. Laboratory component for GL 106.

GL 107-4 The Earth and Human Affairs
An examination of the interactions of humans with the earth in terms of geological hazards (floods, landslides, earthquakes, and volcanoes) and of natural resources (soil, water, ores, industrial minerals, and fossil fuels). Lab exercises on slope stability, earthquakes, soil conservation, ground water, toxic waste, and the economic aspects of mineral extraction and fossil fuels. 3 hours lecture, 2 hours lab. Recommended preparation: GL 106.
GENERAL EDUCATION REQUIREMENTS

Sequence Substitutions: GL 111, 112, and 113 or GL 251/252, 253/254, and 255/256. Honors students may substitute UH 203 for GL 107.

Physics Sequence*

**PHY 105-3 Sounds and Colors**
A study of wave motion with an orientation toward phenomena experienced by our senses, such as musical sounds, noise, and the colors occurring in nature. Concurrent registration in PHY 115 required.

**PHY 115-1 Sounds and Colors Laboratory**
Experiments to illustrate the physical aspects of what we see and hear. Lab component of PHY 105 for students using the course to meet the General Education science requirement.

**PHY 106-3 Revolutions in Physics**
A study of the microscopic structure of matter, the search for the atom from molecules to fundamental particles, and quantum mechanics, relativity, and nuclear energy. Concurrent registration in PHY 116 required.

**PHY 116-1 Revolutions in Physics Laboratory**
Experiments to illustrate the phenomena and concepts of modern physics. Lab component of PHY 106 for students using the course to meet the General Education science requirement.

**PHY 107-3 Stars, Galaxies, and the Cosmos**
An introduction to astronomy with emphasis on the universe of stars and galaxies and covering stellar evolution, astrophysics, and cosmology. Concurrent registration in PHY 117 required.

**PHY 117-1 Stars, Galaxies, and the Cosmos Laboratory**
Astronomical observations and measurements, laboratory experiments, and a visit to a planetarium. Lab component of PHY 107 for students using the course to meet the General Education science requirement.

Sequence Substitutions: PHY 111/101, 112/102, and 113/103 or PHY 240/200, 242/202, 244/204. Honors students may substitute UH 203 for PHY 105 or 106 or 107.

Behavioral Science
(Required)

**PSY 105-4 Psychology: The Science of Behavior**
Considerations of the causes of behavior. Includes physiological processes; learning, memory, and processing of information; perceptual, cognitive, and social changes from birth to old age; and individual differences in thoughts, feelings, and actions.

Sequence Substitution: PSY 111 and 112.

Social Institutions and Processes
(All required)

**SOC 200-3 Social Life**
An 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.

**PLS 200-3 Political Life**
An examination of political power relationships in contemporary society, emphasizing the origins and forms of power and the key social structures exercising power and the key social structures exercising power with contemporary public issues providing case studies of the consequences of political relationships.

**EC 200-3 Economic Life**
An introduction to basic economic concepts such as resource allocation, costs, supply, demand, and public goods; topics covered include American capitalism, market failures, unemployment, inflation, and taxation.

Sequence Substitution: EC 201, 202, and 203. Honors students may substitute UH 202 for any one of the three required Social Institutions and Processes courses.

* Substitutions are allowed for these courses; see the program requirements listed with the departments of your major program.
Choosing Courses

Each quarter, students have an important choice to make: which courses to choose. 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. There are logical patterns to the course requirements of the many different majors, and this section of the catalog can help students understand those patterns.

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

- **General Education Checklist.** This checklist is very useful for first- and second-year students for selecting primary and alternate courses. It can also help students keep track of their remaining general education requirements by checking off the category boxes as they complete courses. Note that some categories show an "RS" symbol, indicating that a required substitution or a required selection is possible in that category due to a major's program requirements. Students should check their major's requirements for such substitutions or selections before taking a course from these categories. Undecided students usually avoid these categories when possible in favor of those without an RS symbol.

- **Math and Statistics Sequences.** For students who want a graphic guide to which mathematics and statistics courses must be taken in what order, this flow chart shows some of the most commonly required sequences and prerequisites.

- **Still Deciding on a Major?** This guide lists some courses required by every Wright State major. This guide also shows a sample first-year schedule 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 or school. Where applicable, a further breakdown is given of admissions requirements to individual departments.

Sources for Courses

Normally students who have 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 and requirements is provided on page 61. Also, most academic departments provide program check sheets for their majors.

Undecided Students

Students who are still exploring majors usually choose courses recommended by their advisor and general education courses from categories that have no required substitutions or required selections due to a student's major (i.e., no RS symbol on the General Education Checklist). Undecided students should also refer to the Exploring Majors and Careers guide on page 60 for help in choosing courses and exploring majors.

Meeting with an Advisor

While all students may meet with their academic advisor for help in picking courses, this is often not required. However, the university strongly recommends that students meet with their advisor during their first quarter or two after entering the university, and again upon transferring to the college or school of their major. Undecided students should work especially closely with their advisor.

Three Course Selection Tools

- **Raider Express Telephone Registration**
- **“Ask Me” Computer Terminals**
- **Quarterly Class Schedule Bulletin**

Students need to choose courses that are open to them—that is, courses that have vacancies in the sections they need, and courses whose sections are not restricted to a special group of students or do not require a prerequisite that the student has not completed. The computer terminals and Raider Express Telephone Registration are invaluable to students for checking for available vacancies in a specific course (see the back cover of the quarterly class schedule for details on how to use phone registration). However, students also need to use the quarterly class schedule bulletin to check for 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 “elementary education majors.”
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 checksheet. The university expects students to complete the general education English, math, history, and natural science requirements before reaching junior status; therefore, many students enroll in some of these courses during their first year.

English Courses

Placement test 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 a math course each quarter until their math requirements are completed. Their starting point is determined by placement test scores or transfer credit, and their final math courses are shown in their major’s program requirements in the catalog listing and on the departmental checksheet. However, students often need help in determining which math courses are required to move from their initial to their final math course. The Math and Statistics Sequences chart on page 59 provides this kind of assistance in the form of a graphic guide by showing common math and statistics course pathways as determined by the course prerequisites. Any student who has not passed a math course within the last year must take the math placement test before registering for a math course.

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 or school of their major. The Summary of Program Admission Requirements on page 61 is an abbreviated listing of these requirements. Using this guide, students may determine what specific courses, grades, or grade point average they need for entry. This listing is also useful for students who have reached the 90-hour limit (135 hours for most Adult and Transfer Services students) and still have not met the admission requirements for their major, and now must choose another major that they can enter.

Summary

Students are encouraged to use the information above and in the pages that follow in this chapter to help them make wise course selections. While the university expects students to be responsible for their own course selections, advisors are available to aid students in making those selections.
General Education Checklist

Area One—Communication and Mathematical Skills

Composition (8 hours)
Both required
- ENG 101 Freshman Composition
- ENG 102 Freshman Composition

Mathematics (3 hours)
Required (RS)
- MTH 105 Mathematics and the Modern World*

Area Two—The Western Experience

The Western World (9 hours)
All required
- HST 101 The Western World: The Ancient and Medieval Eras
- HST 102 The Western World in Transition: The 14th–18th Centuries
- HST 103 The Modern Western World: The 19th–20th Centuries

Great Books of the Western World (3 hours)
Choose one (RS; H)
- ENG 204 Great Books: Literature
- PIL 204 Great Books: Philosophy
- REL 204 Great Books: The Bible and Western Culture

Fine and Performing Arts (3 hours)
Choose one (RS; H)
- ART 214 Visual Art in Western Culture
- MUS 214 Music in Western Culture*
- THI 214 The Theatre in Western Culture

Area Three—The Non-Western World

Comparative Studies (3 hours)
Choose one (RS)
- CST 200 Comparative Non-Western Environments
- CST 230 Comparative Non-Western Literature
- CST 230 Comparative Non-Western Religions
- CST 240 Non-Western Cultural Systems
- CST 250 Comparative Non-Western Political Systems
- CSE 250 Comparative Non-Western Economic Systems

Area Four—Understanding the Contemporary World

Natural Sciences (12 hours)
Choose one sequence (RS)
- PHY 105 Sounds and Colors & PHY 115 Lab
- PHY 105 Revolutions in Physics & PHY 116 Lab
- PHY 107 Stars, Galaxies, and the Cosmos & PHY 117 Lab

Behavioral Science (4 hours)
Required
- PSY 105 Psychology: The Science of Behavior*

Social Institutions and Processes (9 hours)
All required (H)
- SOC 200 Social Life
- PLS 200 Political Life
- EC 200 Economic Life (RS)*

Total Hours Required 57

*Substitutions are allowed for these courses; see the course descriptions on pages 50–54 and program requirements listed by the departments. The chart on page 61 may also help you select appropriate substitutions.

H=Honors students may meet the Great Books or the Fine and Performing Arts requirement with UIH 201. Honors students may substitute UIH 202 for any one of the three required Social Institutions and Processes courses.

RS=A required substitution or a required selection is possible; check your major's program requirements.
Math and Statistics Sequences

This chart is used to determine 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?

Course Planning

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. The following courses are required regardless of a student's major; therefore, they are safe choices for undecided students:

- ENG 101 and 102*
- MATH courses through MTH 126/127*
- HST 101, 102, and 103
- PSY 105, PLS 200, SOC 200, and any RST course

Sample First-Year Schedule for Undecided Students

Fall
ENG ___ or SS ___*
MTH ___ or SS ___*
HST 101
Gen Ed or Elective

Winter
ENG ___ or SS ___
MTH ___ or SS ___
HST 102
Gen Ed or Elective

Spring
ENG ___ or Gen Ed
MTH ___ or Gen Ed
HST 103
Gen Ed or Elective

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

This sample is only a general guide. Each student's real schedule may vary considerably, since there is great flexibility as to when many courses may be taken, especially general education.

Undecided students often need more information on different majors and courses than students with a declared major, and therefore undecided students should work closely with their academic advisor.

Exploring Majors and Careers

Where and How to Get Information

Career Services: 126 Allyn Hall, 873-2550
- Career guidance and exploration counseling
- SIGI PLUS: computerized career guidance system
- Career resources library
- Trade publications
- Future job trends information
- Resume writing assistance
- Co-operative education: internships
- Courses in career planning and decision-making

University Division: E334 Student Union, 873-5750
- Academic advising
- DISCOVER: computerized guidance system

Referral Sources: Informational interviewing ("networking")
- Professors
- Professionals 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)

Campus Bookstore
- Review textbooks for courses in areas of interest

University and Public Libraries
- Career descriptions
- Career search manuals

Volunteer Opportunities
- Organizations
- Community service
Summary of Program Admission Requirements

Listed below is an abbreviated summary of the requirements to enter major programs, organized by college or school, 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 or school and the major in the following sections of the catalog. Grade point averages (GPA) are cumulative unless labeled otherwise.

College of Business and Administration (see p. 63)
- 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. 75)
- Teacher Education Programs (minimums for consideration for admission): • 2.5 GPA • 45 hrs. • acceptable scores on the Pre-Professional Skills Test (PPST) • formal application • two letters of recommendation • writing sample
- Rehabilitation Services • 2.35 GPA • 24 hrs.

College of Liberal Arts (see p. 111)
- 2.0 GPA • 24 hrs. • ENG 101 & 102 with grade of C or higher, plus HST 101, and two other Gen. Ed. courses

Additional requirements for specific majors:
- Communication: • 2.5 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
- Social Work (minimum for consideration for admission): • 2.25 GPA • grade of C or higher in SW 270 & 271 • formal application • additional requirements on p. X
- Music • only an audition is required
- 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
- B.F.A. in Motion Picture Production: • 2.25 GPA • grade of B or A in TH 131 & 180

College of Science and Mathematics (see p. 149)
- 2.0 GPA • 24 hrs. • grade of C or higher in 2 courses in chosen major

Additional requirements for specific majors:
- Geology: • 2.2 GPA • MTH 130 or 134 • grade of C or higher in GL 251/252 & GL 253/254
- 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.

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 & 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 Nursing and Health (see p. 145)
- 2.5 GPA • 48 hrs. in prescribed courses • grade of C or higher in all science courses • formal application • admission is competitive • additional requirements on p. 146
The College of Business and Administration is fully accredited at both the undergraduate and graduate level by the American Assembly of Collegiate Schools of Business, AACSB, 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 have been found to be of exceptional quality.

The college is committed to exceeding the standards advanced by the AACSB. 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 businessperson’s responsibilities in the political, social, and economic order of society; and teach students to adjust to the rapidly changing conditions of the business world.

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 Science in Logistics Management.

Admissions and Advising

All students who are interested in a degree in business administration 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 administration majors are required to complete the program of study that is in effect at the time of their admission to the College of Business and Administration. Specific requirements for admission to the college follow; these requirements are determined by the faculty and are subject to change.

Admission from University Division and Other WSU Colleges

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

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 grade point average for at least 12 hours earned at Wright State.

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 being granted a business major number needed before they can enroll in junior- or senior-level classes.

Tier II
Completion of:
- ACC 201, 202, 203
- EC 201, 202, 203
- MS 201, 202
- CS 205
- MTH 228

Transfer Students

Transfer students seeking admission to the College of Business and Administration must satisfy the criteria for Wright State students except for the requirement that 12 hours be earned at Wright State University.

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.

Acceptable transfer credit will satisfy any of the above requirements.

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 right away.

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. A list of faculty advisors is available in 110 Rike Hall or in department offices.

If a student’s cumulative grade point average falls below the 2.00 required for graduation, the student will be placed on mandatory advising. While on mandatory advising, students can enroll in only four classes. If a student’s cumulative grade point average remains below 2.00 for three consecutive quarters, the student is subject to dismissal. Students on mandatory advising 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, 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 pages 49–54 for an explanation of general education requirements). The second are the business core requirements that all students in the College of Business and Administration 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 junior or senior courses that are offered by the College of Business and Administration but are not already required by the student’s major. Nonbusiness electives are any nonbusiness courses above the 100 level except for MTH 102 and 127. Only 6 hours of HPR or physical education credit and 12 hours of military science credit may apply to nonbusiness electives. The exact number of electives required will depend on a student’s major in business.

Students wishing to pursue a double major within the College of Business and Administration 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 189 credit hours of acceptable academic work.
2. attain a 2.0 or better grade point average.
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 a minimum of 30 credit hours of upper division course work at Wright State.
6. (for accountancy and management majors) attain of a 2.0 or better cumulative grade point average 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 Minor

Nonbusiness students may earn a minor in business, in addition to their major, by completing the required courses listed below. These students will receive the designation of “Minor in Business” on their transcript when they graduate. In many cases, students can use all 49 hours of course work to fulfill the elective requirements of their major program. The business minor is a professional core of course work selected from the major functional areas of business. These courses provide a general foundation for understanding business and for graduate study in business administration and management.
The following courses are required for the business minor:

CS 205 Computer Literacy and Office Automation
ACC 201, 202, 203 Accounting Concepts and Principles I, II, III
EC 201, 202, 203 Principles of Economics
MS 201 Introduction to Data Analysis
MS 202 Introduction to Statistical Inference
(Other statistics courses may substitute for MS 201 and 202; contact an advisor)
FIN 301, 302 Business Finance I, II
LAW 350 The Legal Environment of Business
MGT 301, 302 Principles of Management and Introduction to Organizational Behavior
MKT 301, 302 Principles of Marketing and Marketing Management

Students in the minor program are restricted from taking business courses other than those required by the program. For more information, contact an undergraduate advisor in the College of Business and Administration.

Admission to the Business Minor

Students will be admitted to the business minor when they have been admitted to a major program, earned junior status (90 hours), and have completed all 200-level courses required by the business minor. Enrollment in 300-level courses will not be permitted until students have applied for and been admitted into the business minor program. Students pursuing a B.A. in economics degree may not enroll in the business minor.

International Business Minor

The international business minor provides students with an opportunity to broaden their exposure to international business, and notes this officially on their transcripts. It is intended primarily for business majors since it gives those students a foundation in international issues that would complement their knowledge in a specific business discipline. However, the minor is open to any student who meets the admission requirements of the college and who has completed the prerequisite courses.

Required classes:
EC 441 International Trade and the Economy
EC 442 International Monetary Theory and Problems
FIN 490 International Financial Management
MGT 485 International Management
MKT 421 International Marketing
ACC 451 International Accounting
Foreign Language through 201

Electives: Two courses required
GEO 325
HST 318
HST 425
HST 455/PLS 366
HST 465
PLS 351
PLS 370
PLS 470
REL 341
REL 344

Honors Program

The College of Business and Administration sponsors an honors program for all students who have demonstrated outstanding academic ability and superior accomplishments to complete a program in the college that will encourage and recognize their distinguished efforts and abilities. Such students may earn an honors degree by completing the departmental major requirements, by maintaining a high academic record, and by successfully completing the college honors program. Students who are interested in applying to the program may contact the college’s advising office for eligibility requirements and further details.

Cooperative Education

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 126 Allyn Hall.

Student Organizations

Each of the majors offered by the College of Business and Administration sponsors a student club. Participation in these clubs gives students a chance 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, Economics Club, Data Processing Management Association, Finance Club, Operations Management Club, Management Club, Marketing Club, and the MBA Association. 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 or stop in 110 Rike Hall for information on how to join.

The Association of Black Business Students was organized to strengthen the relations between black students and the entire campus and business community. The association accomplishes this by promoting academic excellence, professional and personal development, and cultural awareness. Membership is open to any Wright State University student.

**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 nine major programs available to students in the College of Business and Administration. 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, 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.

The course requirements of the freshmen and sophomore year are the same for all majors except management information systems and management science (operations management) and are listed below.

**Required Courses—Majors in Business and Administration**

An official list of major requirements 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.

The program requirements listed on the following pages illustrate an ideal schedule for full-time students. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure they observe prerequisite requirements of the courses.

**General Education Requirements**: 51

**Required Substitutions**: MTH 228
EC 201, 202, 203

**Freshman Year**

<table>
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<td>ENG 101</td>
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<td>MTH 128 or 129</td>
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<td>MTH 228</td>
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<td>HST 102</td>
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<tr>
<td>Third Quarter</td>
<td>17</td>
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<tr>
<td>Fine Arts*</td>
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<tr>
<td>Science III*</td>
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**Sophomore Year**

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<table>
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<td>PLS 200</td>
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<td>EC 203</td>
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<td>Great Books</td>
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</tr>
<tr>
<td>MS 203</td>
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</tr>
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</table>

*Students have a choice of courses that meet general education requirements in the following areas: Great Books, Fine and Performing Arts, Comparative Studies, Regional Studies, and Natural Sciences. The chapter on General Education Requirements, on pages 49-54, lists the specific courses that meet the requirements in these areas.
Accountancy

Professors Castellano, Hassan, Pabst, Snavely, Sprohge, Talbott
Associate Professors Hereth, Lightle
Assistant Professors Brecha (chair), Kremer (WSU-Lake Campus), Bushong
Lecturer Houston
Instructors Khoury, Vogel

Wright State’s accountancy program is accredited by the American Assembly of Collegiate Schools of Business. Only 9 percent of the accountancy programs in the United States have this accreditation, which is awarded on the basis of overall quality of the faculty, students, and curriculum.

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 CPA and CMA. This major also provides an excellent undergraduate background for a degree in law. Although only one general program is offered, the careful selection of electives, under the guidance of a faculty advisor can prepare students for a variety of careers.

Transfer students who major in accountancy should note that at least 18 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.

Degree Requirements—Accountancy

Bachelor of Science in Business Degree

The program in accountancy requires a minimum of 188 credit hours.

The following program represents the optimum schedule for full-time students pursuing a four-year program. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure that they meet prerequisite requirements. Planning schedules are available in the department office.

Junior Year

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<tbody>
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<table>
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<td>MKT 301</td>
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<tr>
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<tr>
<td>ACC 322</td>
</tr>
<tr>
<td>ACC 328</td>
</tr>
<tr>
<td>MGT 302</td>
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<table>
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<tr>
<th>Tenth Quarter</th>
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<tbody>
<tr>
<td>EC 301</td>
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<tr>
<td>LAW 350</td>
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<td>Nonbusiness Elective</td>
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<table>
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<tbody>
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<td>MS 306</td>
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<td>ACC 441</td>
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<td>Business or Nonbusiness Elective</td>
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<table>
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<td>MGT 492</td>
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<tr>
<td>ACC 498</td>
</tr>
<tr>
<td>ACC 442</td>
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<tr>
<td>Business or Nonbusiness Electives</td>
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Economics

Professors Blair, Fichtenbaum, Kumar, Premus (chair), Renas, Sav, Swaney
Associate Professors Dung, Olson, Traynor
Assistant Professors Hopkins, Osborne
Lecturer Endres
Instructors Sylvester (director, M.S. program)

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, law, 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, concisely, and grammatically. To enhance writing skills, students are required to complete 12 hours of writing-intensive courses.

Departmental undergraduate 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 188 credit hours. A minimum of 36 credit hours in economics is required.

The following program represents the optimum schedule for full-time students pursuing a four-year program. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure that they meet prerequisite requirements.

Junior Year

<table>
<thead>
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<tr>
<td>MIS 300</td>
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</tr>
<tr>
<td>Nonbusiness</td>
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</table>

<table>
<thead>
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</tr>
</thead>
<tbody>
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<td>FIN 302</td>
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<tr>
<td>MGT 302</td>
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<tr>
<td>MKT 301</td>
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<table>
<thead>
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<th>Ninth Quarter</th>
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<tbody>
<tr>
<td>EC 319</td>
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<tr>
<td>EC Electives*</td>
<td>6</td>
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<tr>
<td>MKT 302</td>
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<tr>
<td>LAW 350</td>
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Senior Year

<table>
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<tbody>
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<td>EC 301</td>
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<td>EC Electives</td>
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<table>
<thead>
<tr>
<th>Eleventh Quarter</th>
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</thead>
<tbody>
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<td>EC Electives*</td>
<td>6</td>
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<tr>
<td>MGT 491</td>
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<td>MS 306</td>
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<tr>
<td>Business Elective</td>
<td>3</td>
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</table>

*Economics electives include any 300- or 400-level EC classes that are not required.

13

Finance, Insurance, and Real Estate

Professors Bacon, Goulet, Gressis
Associate Professors Ahmad, Ainina, Kaufman, Larsen, Sweeney (chair), Williams (associate dean)
Assistant Professor Fenic
Instructor Kane

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, working capital management, international finance, and managerial finance. 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, stock broker, insurance agent, real estate broker, loan officer, and trust officer. Students who complete the financial services major 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. This dual major can be completed within the 188 hours required for graduation. Interested students should contact an academic advisor.
Degree Requirements—Finance

Bachelor of Science in Business Degree

The major in finance requires a minimum of 188 credit hours.

The following program represents an optimum schedule for full-time students pursuing a four-year program with a major in finance. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure that they meet prerequisite requirements.

Junior Year

Seventh Quarter 16
FIN 301 3 MIS 300 4
MGT 301 3 ACC 304 3
MKT 301 3

Eighth Quarter 15
FIN 302 3 ACC 305 3
MGT 302 3 LAW 350 3
MKT 302 3

Ninth Quarter 16
FIN 303 3 ACC 306 3
MS 306 3 PHL 371 4
EC 301 3

Senior Year

Tenth Quarter 15
Business Elective 3 FIN 401 3
FIN Electives* 6 FIN 490 3

Eleventh Quarter 17
FIN 420 3 Nonbusiness Electives 8
MGT 491 3 Business Elective 3

Twelfth Quarter 15
FIN Electives* 6 Business Elective 3
MGT 492 3 FIN 421 3

*A list of approved finance electives is available from an advisor.

Degree Requirements—Financial Services

Bachelor of Science in Business Degree

The major in financial services requires a minimum of 188 credit hours.

The following represents an optimum schedule for full-time students pursuing a four-year program in financial services. Many individuals, especially part-time students, will be unable to follow the program as shown. These students should contact their advisors to plan their schedules.

Junior Year

Seventh Quarter 15
FIN 301 3 MGT 301 3
FIN 305 3 MKT 301 3
FIN 331 3

Eighth Quarter 15
FIN 302 3 MKT 302 3
FIN 351 3 EC 301 3
MGT 302 3

Ninth Quarter 17
MS 306 3 MIS 300 4
ACC 441 3 PHL 371 4
LAW 350 3

Senior Year

Tenth Quarter 15
FIN 401 3 Business Elective 3
FIN 461 3 Financial Services Elective* 3
MKT 336 3 Elective* 3

Eleventh Quarter 17
FIN 462 3 Business Elective 3
Financial Services Nonbusiness Elective* 3 Elective 5
MGT 491 3

Twelfth Quarter 15
FIN 463 3 Financial Services Elective* 3
MGT 492 3 Business Elective 3

*A list of approved financial services electives is available from an advisor.

Insurance

See Finance, Insurance, and Real Estate

Management

Professors Hartmann, Scherer (associate dean for Community Relations), Stickney
Associate Professors Baker, Davy, Owen, Petrick, Slonaker (chair), Wendt
Assistant Professor Evans (Emeritus)
Instructor Strimpfel

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 188 credit hours.

The following program represents the optimum schedule for full-time students pursuing a four-year program. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure that they meet prerequisite requirements.

Junior Year

Seventh Quarter 16
FIN 301 3 MIS 300 4
MGT 301 3 LAW 350 3
MKT 301 3

Eighth Quarter 13
FIN 302 3 MKT 302 3
MGT 302 3 PHL 371 4

Ninth Quarter 16
MS 306 3 Nonbusiness
MGT 321 3 Elective 4
EC 301 3 Human Resource Concentration Elective 3-4

Senior Year

Tenth Quarter 15-16
MS 435 3 LAW 420 3
MGT 411 3 *Concentration Elective 3-4
MGT 412 3

Eleventh Quarter 15-17
MGT 491 3 Business Elective 3
MGT 410 3 *Concentration Electives 6-8

Twelfth Quarter 12-13
MGT 492 3 Nonbusiness
MGT 485 3 Elective 3

*Concentrations are: Entrepreneurship, International Management, Public Policy Management, Organizational Change and Development, General Management, and Selected Management Studies.

Degree Requirements—Human Resource Management

Bachelor of Science in Business Degree

The program in human resource management requires a minimum of 188 credit hours.

The following program represents the optimum schedule for full-time students pursuing a four-year program. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure that they meet prerequisite requirements.

Junior Year

Seventh Quarter 16
FIN 301 3 MIS 300 4
MGT 301 3 LAW 350 3
MKT 301 3

Eighth Quarter 16
FIN 302 3 LAW 360 3
MGT 302 3 PHL 371 4
MKT 302 3

Ninth Quarter 16-17
MS 306 3 Nonbusiness
MGT 321 3 Elective 4
EC 301 3 Human Resource Concentration Elective 3-4

Senior Year

Tenth Quarter 12-13
MGT 410 3 Human Resource
MGT 412 3 Concentration Elective 3-4
LAW 420 3

Eleventh Quarter 16-17
MGT 491 3 Human Resource
MGT 422 3 Concentration Elective 3-4
MGT 424 3 Nonbusiness Elective 4

Twelfth Quarter 15-16
MGT 495 3 Nonbusiness
MGT 492 3 Elective 3
Human Resource Concentration Elective 3-4
Human Resource Track Electives

Students are required to complete four courses for one track:

**Benefits Administration**

- FIN 305
- FIN 351
- MGT 481

**Training and Development**

- COM 445
- COM 451
- MGT 480 (Quality Culture)

**Employee Relations**

- COM 343
- EC 445
- MGT 481

Major courses must be completed with a "C" or higher average.

Degree Requirements—
Management Information Systems

Bachelor of Science in Business Degree

The program in management information systems requires a minimum of 188 credit hours.

The following program represents the optimum schedule for full-time students pursuing a four-year program. Many individuals, especially part-time students, may not be able to schedule their classes as shown. However, they must complete all requirements and plan their schedule to ensure that they meet prerequisite requirements.

**Freshman Year**

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<td>MTH 128 or 129</td>
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<td>ENG 102</td>
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<td>CS 208</td>
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<table>
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Two majors are available: management information systems and operations management.

The management information systems major trains students for careers in information analysis, business systems design, and information systems 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, data base structures, data base management systems, computer programming, and data communications. The program also covers business fundamentals in accounting, finance, marketing, management, and management science.
Senior Year

Tenth Quarter 17

Great Books** 3 PLS 200 3
MIS Elective 4 Nonbusiness 3
CST** 3 Elective 4

Eleventh Quarter 15

MGT 491 3 MIS 420 3
EC 301 3 Business Elective 3
LAW 350 3

Twelfth Quarter 14

MGT 492 3 MIS 490 3
Nonbusiness MIS Elective 4
Elective 4

**MIS/ACC majors will be required to take ACC 321.

*tudent have a choice of courses that meet general education requirements in the following areas: Fine and Performing Arts, Great Books, Comparative Studies, Regional Studies, and Natural Sciences. The chapter on General Education Requirements, on pages 49-54, lists the specific courses that meet the requirements in these areas.

MIS Electives (select 1)

CS 300 MS 450
CS 301 CS 315
CS 430 MS 480
CS 225 MS 477

(New courses are added as technology changes. Request an updated list in 110 Rike Hall prior to completing courses.)

Operations Management

Better, faster, with less. These are key goals for business survival in the 21st century. Students majoring in operations management (OM) will study the strategies, tools, and analytical concepts to accomplish these goals. The OM major learns how to organize and control resources to produce goods and services at low cost and at a high level of quality. The student learns to develop long-range plans, to purchase major inputs, and to coordinate all elements of the supply chain from supplier to the ultimate destination.

The Operations Management curriculum is designed to cover the breadth of the body of knowledge required for certification in production and inventory management (CPIM) by the American Production and Inventory Control Society (APICS). Forecasting, inventory management, purchasing, master planning, total quality management, and just-in-time production systems are important areas of study.

The OM major qualifies graduates for entry-level positions in a wide variety of areas. These include operations management, production supervision, quality assurance, and materials management. Graduates typically qualify for entry-level positions as production supervisor, production control analyst, inventory specialist, statistical process control coordinator/specialist, purchasing agent/manager, and materials scheduler. OM graduates may find jobs in hospitals, defense logistics organizations, distribution companies, and the government.

Degree Requirements—Operations Management

Bachelor of Science in Business Degree

Freshman Year

First Quarter 18

ENG 101 4 MTH 128 or 129 3
Science I** 4 HST 101 3
CS 205 4

Second Quarter 15

ENG 102 4 HST 102 3
Science II** 4 CS 206 4

Third Quarter 16

Science III** 4 CS 207 4
HST 103 3 MTH 228 5

Sophomore Year

Fourth Quarter 15

EC 201 3 ACC 201 3
MS 201 3 Fine Arts** 3
SOC 200 3

Fifth Quarter 16

EC 202 3 ACC 202 3
RST** 4 MS 202 3
PSY 105 4

Sixth Quarter 16

EC 203 3 ACC 203 3
Great Books** 3 MS 203 3
ENG 330 4

Junior Year

Seventh Quarter 16

MIS 300 4 LAW 350 3
MGT 301 3 MS 331 3
MKT 301 3

Eighth Quarter 15

FIN 301 3 MS 306 3
MGT 302 3 ACC 300* 3
MKT 302 3

Ninth Quarter 16

FIN 302 3 EC 301 3
MS 439 3 PHL 371 4
Business Elective 3

Senior Year

Tenth Quarter 15

MGT 411 3 MS 435 3
PLS 200 3 Nonbusiness
MS 450 3 Elective 3
Marketing

Professors  Brown, Carmone, Carusone, Kegerreis, Khera, Wise (Emeritus)
Associate Professors  Dovel (chair), Ping, Saunders
Assistant Professor  Gulas

The marketing program gives students a thorough grounding in the concepts and techniques needed to make marketing decisions in any organization. In addition to survey courses in principles of marketing and marketing management, marketing majors study consumer behavior, personal selling, product management, price management, advertising, either physical distribution or retailing, and marketing policy.

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.

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

For advice about specific academic programs, see an academic advisor in the dean’s office.

Degree Requirements—Marketing

Bachelor of Science in Business Degree

The program in marketing requires a minimum of 188 credit hours.
Dean Frederick Gies
Associate Dean Gregory Bernhardt
Assistant Deans Dixie Barnhart, Bonnie Mathies
Chair, Department of Teacher Education
James K. Uphoff
Chair, Department of Educational Leadership
Charles Leonard
Chair, Department of Human Services
Jan La Forge
Director, Professional Field Experiences
Michael Barnhart
Director, Student Services James Uphoff
Teacher Certification Advisor Priscilla Bolds, Martha Taricone
Manager, Office of Student Services Chris Murphy

Faculty

Teacher Education
Professors Brown, Earl (Emeritus), Hansell, Payne, Uphoff
Associate Professors Chance, Cole, Harris, Lang-Owen, McCarther (Chair), Wade (Emeritus), Williams
Assistant Professors Barnhart, Finegan-Stoll, Mathews, Nichols, Slattery, Spence, Tomlin
Instructors Garscadden, Renick

Health, Physical Education, and Recreation
Associate Professors Frederick (chair), Gayle

Human Services
Professors Bernhardt, Frey, Ryan
Associate Professors Jones, La Forge (chair), Schumacher
Assistant Professors Fortson, Self, Taricone, Wagner, Williams

Educational Leadership
Professors Gies, Gordon, Graham, Leonard (chair), Messner, Ryan
Associate Professors Courtney, Kisch, Mathies, Presno, Ricks, Sturm
Assistant Professors Barnhart, Green, Kleine, Pappas, Raulsten
Lecturers Basinger, Doll, Kerlin

Special Note
Almost the entire certification/licensure program for teachers, including the nature of the undergraduate majors, is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed in the College of Liberal Arts and in the College of Science and Mathematics. In the following pages a separate special note precedes the description of each of the programs to be changed. No student will be admitted to these current Teacher Education Programs after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall, or call 873-4508.

The College of Education and Human Services assumes responsibility for one of the university's primary functions: preparing teachers, educational leaders, and professionals in human services. Undergraduate programs within the college lead to certification by the Ohio Department of Education in primary, elementary, special education, secondary, and K-12 school teaching fields. The Departments of Educational Leadership and Human Services prepare both certified and noncertified leaders for public and private schools and for community agencies. These leaders include public school principals, curriculum supervisors, central office administrative specialists, school psychologists, school guidance counselors, personnel counselors, and rehabilitation specialists.

The Bachelor of Science in Education degree and the Bachelor of Science degree with a major in rehabilitation are offered. The college also offers programs leading to the Master of Arts, Master of Education, Master of Rehabilitation Counseling, and Master of Science degrees.

Bachelor's degree programs include general education requirements, an intensive study of an academic or a specialized professional area, and a professional component that integrates theory with clinically based practicum experiences.

In addition to regular degree programs, the College of Education and Human Services offers both credit and noncredit special courses and workshops for community educational personnel. Throughout its history, the college has maintained a close working relationship with the
public schools of the area. Cooperative efforts through the teacher education laboratory centers facilitate inservie and preservice teacher education by providing a variety of theoretical and clinical experiences for students. Frequent involvement of the College of Education and Human Services faculty in the schools of the area, and the advice and planning assistance of public school personnel serve to improve both the teacher education programs and the programs of community schools.

The College of Education and Human Services meets the certification 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 is accredited by the National Council for Accreditation of Teacher Education.

Admissions and Advising

The College of Education and Human Services is currently reviewing its Teacher Education Program. Admission requirements currently listed in the undergraduate catalog and other university publications may be supplemented by new criteria before a student applies for admission into teacher education. A year's notice of changes will be given to currently enrolled students. The program requirements leading to teacher certification are also subject to change.

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 National Council for Accreditation of Teacher Education, 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 education programs. While academic performance is a major determinant of effective teaching, it is not the only one. Because there are also skills, understandings, and personal characteristics unique to teaching, students seeking admission to teacher education programs must meet requirements in addition to those generally prescribed for enrollment in the university.

Prospective majors should see an academic advisor in the college for current admissions requirements.

Students are invited to join the College of Education and Human Services teacher education major after they have completed the process as described below. The rehabilitation major admissions requirements are a 2.35 grade point average and completion of 24 credit hours.

Teacher Education Admissions Policy

To be considered for admission to the College of Education and Human Services Teacher Education Program, students must have:
1. completed at least 45 academic credit hours,
2. attained at least a 2.5 cumulative grade point average,
3. achieved a minimum score of 172 on each section of the Pre-Professional Skills Test (PPST), and
4. submitted a completed CEHS Teacher Education Program Application packet which includes:
   a. Evidence of GPA and PPST score.
   b. A self assessment statement which includes the applicant's career goals, and a signed character statement.
   c. Two letters of recommendation. Secondary certification applicants will need at least one letter from a faculty member in their content or field department or departments. Elementary certification applicants will need at least one letter from a faculty member or a university advisor.
   d. A writing sample of 250–500 words.

In addition to the above listed items, a personal interview may be required at the discretion of the College of Education and Human Services. 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 certification must meet these admission requirements. All requirements are subject to NCATE and ODE regulations. Application forms may be obtained from the College of Education and Human Services Student Services Office.

Transfer Students

Students transferring from other institutions or from other colleges of Wright State University must meet the same standards for admission to the College of Education and Human Services detailed above, including the 2.5 grade point average, the completion of 45 credit hours (or equivalent) of college credit, and acceptable
scores on the PPST for teacher education. Rehabilitation majors need a 2.35 GPA and 24 credit hours completed.

**Advising**

Upon admission to the College of Education and Human Services, each student is assigned two advisors: a faculty advisor and a teacher certification advisor. The faculty advisor supports and guides students in developing their professional goals and objectives. The teacher certification advisor prepares an individual program of study and sends one copy to the student, one copy to the faculty advisor, and files a copy in the student's file in the Office of Student Services. The teacher certification advisor is available to answer questions about teacher certification, program requirements, course prerequisites, sequences, and university and college rules and regulations. Because of the sequential nature of many courses and the prerequisites needed in both the professional and academic components of education degree programs, students are strongly urged to consult an advisor before registering. Any deviation from the specified curriculum should be discussed in detail with the teacher certification advisor before it is undertaken. The college provides an undergraduate education guidebook for all students; this book should be studied carefully and kept with all academic records.

**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 certification 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 certification.

**Degrees and Areas of Study**

The college offers four-year curricula leading to the Bachelor of Science in Education degree and recommendation for Ohio teacher certification in the fields listed below. Teacher certification in Ohio also requires passing scores on examinations mandated by the state's Department of Education.

The elementary and secondary programs meet the State of Ohio Standards for Colleges of Universities preparing teachers. One of the requirements mandated by these standards is the completion of 300 clinical/field experience hours prior to student teaching. Students will be required to take five full days of prequarter field experience in the public schools as well as one half-day per week during the quarter in ED 221 and one half-day per week in ED 223 as a part of the requirements of Phase I. In Phase II there will be one-half-day per week field experience in ED 321 and ED 323. Students should take these requirements into account when scheduling other courses.

Upon acceptance into the College of Education and Human Services, students should meet with a teacher certification advisor to determine specific program changes that may not be reflected in this catalog.

**Early Childhood Education**

**Pre-K/K–P Program**

**Elementary—Grades 1–8**

**Special Education K–12**

Developmentally Handicapped
Multihandicapped
Orthopedically Handicapped
Specific Learning Disabilities

**Special Fields—Grades K–12**

Computer Science
Language (French, German, Spanish, Latin)
Music Education
Physical Education
Visual Arts Education

**Secondary—Grades 7–12**

**Major Teaching Fields**

Biological Sciences Education
Chemistry Education
Earth Science Education
English Education
History Education
Latin Education
Mathematics Education
Physics Education
Vocational Business Education
The College of Education and Human Services offers a four-year curriculum leading to a Bachelor of Science degree with a major in rehabilitation. This program prepares students to work with people with physical or mental disabilities and disadvantages, but does not include teacher certification. Students may choose one of two major concentrations: generalist or mental health.

Validation of Standard Teaching Certificates
Curricula are available to validate standard teaching certificates in the following areas:
- Adapted Physical Education
- Teaching English to speakers of other languages (TESOL)
- Kindergarten
- Prekindergarten

Specific Requirements

Elementary Education and Early Childhood Pre-K/P
1. General requirements listed previously
2. Of the 192 credit hours required for graduation, a minimum of 58 to 77 quarter hours in professional education
3. Completion of prescribed pattern of courses
4. A 30-credit-hour area of concentration in a discipline selected from the humanities, mathematics, natural sciences, or social studies

Special Education K–12
1. General requirements listed previously
2. Of the 192 credit hours required for graduation, a minimum of 58 to 82 quarter hours in professional education
3. Completion of prescribed pattern of courses

Special Fields
(preparation to teach special subjects in grades K–12)
1. General requirements listed previously
2. Of the 192 hours required for graduation, a minimum of 45 hours in professional education
3. Completion of appropriate speech course
4. Fulfillment of requirements established in major teaching field with a 2.5 GPA in each field
5. For specific degree requirements in computer science, languages education, physical education, and visual arts, see the program descriptions on subsequent pages. For specific degree requirements in music education, see Music, College of Liberal Arts.

Secondary Education
(preparation to teach academic subjects in grades 7–12)
1. General requirements listed previously
2. Of the 192 credit hours required for graduation, a minimum of 45 hours in professional education
3. Completion of appropriate speech course
4. Fulfillment of requirements established in one or more major teaching fields with a 2.5 grade point average in each field
Students may have a major and one or more second teaching fields, two majors, or a comprehensive field. Students are strongly advised to prepare in at least two teaching fields or a comprehensive field.

Rehabilitation Education
(preparation for work with disabled and disadvantaged individuals)
1. General requirements listed previously
2. Completion of prescribed pattern of courses
This program does not include teacher certification.

Education Honors Program
Outstanding students enrolled in programs in the Department of Teacher Education 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 are eligible for the honors program if they have maintained a 3.0 overall cumulative grade point average, 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 an education advisor.

Recommendation for Certification
Every teacher in Ohio public schools is required to have a certificate covering the field or fields in which he or she is teaching. This certificate is issued by the Ohio Department of Education upon the recommendation of the College of Education and Human Services. Students may apply for certification in the College of Education Office of Student Services during the last quarter of their professional undergraduate programs.

A candidate for teaching certification 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 National Teachers Exam (NTE), 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 certificate.

“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 certification considered by the State Board of Education, provided the individual meets the conditions specified in rule 3301-23-23 of the Administrative Code.

Certification of Students From Other Colleges Within the University
Students who receive degrees from other colleges within the university may also wish to obtain teaching certificates. They are subject to the same admissions requirements as described on page 77. Recommendation for certification 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 professional courses included in the secondary education programs listed on subsequent pages, the minimum of 192 credit hours, and a passing score on the NTE.

Certification for Holders of Nonprofessional Degrees
Students who are graduates of other accredited colleges or universities are subject to the same requirements as described on page 77.

In addition, the Office of Student Services in the College of Education and Human Services helps those seeking certification in the teaching profession by providing evaluations of college transcripts. This service is provided for:
1. Currently enrolled WSU students
2. WSU alumni who have been previously certified and seek to obtain additional endorsements
3. Candidates who have applied for admission to WSU
4. Persons seeking additional and/or renewal of certification who have not previously attended WSU, but reside in the metropolitan area served by WSU
5. Residents of the metropolitan area seeking information on initial certification
6. Persons who have been previously certified in the State of Ohio, and whose coursework was primarily taken at a State of Ohio institution
7. Persons who have been previously certified and seek renewal and/or additional endorsements, but reside outside the metropolitan area served by WSU (exception for WSU alumni)
8. Persons who reside out of state, and have not been previously certified
9. Non-U.S. citizens or residents who reside outside the U.S. and seek a nonimmigrant visa for the purpose of study (F-1, J-1 visas)
10. International inquiries from non-U.S. citizens or residents whose coursework has primarily been at foreign institutions*
   Evaluation results are not official and are subject to review at the time of admission to the College of Education and Human Services. Evaluation results are valid for one calendar year. If an updated evaluation is required by the client, an additional request form must be completed and the appropriate fee paid.
   Clients falling under the 4-10 categories will be assessed a nonrefundable $25 fee for each area of certification requested.
   For more information, contact the College of Education, Office of Student Services, 321 Millett Hall, 873-4508.
   *International students should first consult with the Office of Student Services.

Certification for School Nurses†
The requirements for a provisional school nurse's certificate are a bachelor's degree from an approved institution, a current license as a registered nurse in the state of Ohio, and successful completion of the prescribed program of professional education. Registered nurses who do not hold a bachelor's degree may complete degree and certification requirements concurrently.
†The College of Education and Human Services is currently reviewing its Certification for School Nurses program. Prospective certification candidates should see an academic advisor in the college for current program requirements.

School Nursing Certification

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<td>10-13</td>
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Student Organizations

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

Ohio Student Education Association (OSEA) is a preservice organization for all students, graduate or undergraduate, who are interested in education. The primary purpose is to further professional interest in education and provide opportunities to meet socially with other students of similar interests. 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. 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. Association of Teacher Educators (ATE) is the only national, individual membership organization devoted solely to the improvement of teacher education for both school-based and campus-based educators. The student Rehabilitation Club provides rehabilitation majors with opportunities to explore topics in the field as well as offering social interaction. Business Professionals of America is a national student organization composed of state associations 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.
Biological Sciences Education

Special Note

The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The biological sciences education program prepares students to teach biology and general science in grades 7–12. The concentration in biology provides greater depth in that area by encompassing all the departmental core courses, including cell biology, genetics, microbiology, developmental biology, animal biology, and plant biology. The program also includes basic and supporting courses in chemistry and physics, related course work in mathematics and/or other areas of science, and the professional education courses required of all candidates for secondary school certification.

Degree Requirements—Biological Sciences Education

Bachelor of Science in Education Degree

General Education Requirements 60

Required substitutions:
CHM 121, 122, 123

Professional Education Requirements 50–52

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 302, 327, 432, 464, 431, 321, 323; EDT 280, COM 101 23

Phase III*
ED 429, 440 13–15

Biology Concentration Requirements 86.5

BIO 112, 115, 114 12
BIO 252, 253, 254, 255 20
BIO 210, 211, 212 12
BIO 278, 279 9
PHY 111/101, 112/102, 113/103 15
GL 251/252, 253/254, 255/256 13.5
MTH 229 5

Total (minimum requirement) 196.5

*Field and clinical experiences required.

Biological Sciences Education as a Second Teaching Field

The following courses are required for biological sciences as a second teaching field. Required courses are BIO 112, 114, 115, 210, 211, 212, 252, 253, 254, 255, 278, 279; ED 431; and MTH 229.

Business Comprehensive Education

Business comprehensive education leads to the Bachelor of Science in Education degree and state certification. 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 high school comprehensive certificate in business education in Ohio is valid for teaching any business subject in grades seven and eight and for teaching any subject in grades nine through 12 in which the candidate has completed 30 quarter hours of work in the content area. The comprehensive major can lead to certification in all areas of secondary business education, including bookkeeping/basic business; keyboarding, word processing, and office procedures; stenography, keyboarding, and office procedures; sales; economics; and data processing. By taking three additional courses (VOE 407, VOE 408, and OA 401) and having two years of recent, related work experience, the candidate can be eligible for the vocational business education certificate as well.
### Chemistry Education

#### Special Note

The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The chemistry education program prepares students to teach chemistry and general science in the secondary school. The concentration provides a strong preparation in chemistry with courses in general, organic, analytical, and physical chemistry. The program includes basic and supporting courses in biology, physics, and earth science and the professional education courses required of all candidates for secondary school certification. Students are strongly advised to complete at least one second teaching field in biological sciences or earth science or physics in addition to the basic program in chemistry.

#### Degree Requirements—Chemistry Education

**Bachelor of Science in Education Degree**

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Chemistry Concentration Requirements

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<td>CHM 121, 122, 123, or CHM 191, 192, 193†</td>
<td>15</td>
</tr>
<tr>
<td>CHM 211/215, 212/216, 213/217</td>
<td>18</td>
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<tr>
<td>CHM 451, 452</td>
<td>6</td>
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<tr>
<td>CHM 312/314</td>
<td>7.5</td>
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<tr>
<td>GL 251/252, 253/254, 255/256</td>
<td>13.5</td>
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<tr>
<td>PHY 111/101, 112/102, 113/103</td>
<td>16</td>
</tr>
<tr>
<td>MTH 231</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total (minimum requirement)</strong></td>
<td><strong>195</strong></td>
</tr>
</tbody>
</table>

*Students should choose either CHM 121, 122, 123, or 191, 192, 193 sequence. Courses from both sequences cannot be mixed.*

Chemistry Education as a Second Teaching Field

The following courses are required:

CHM 121, 122, 123, or 191, 192, 193; CHM 211, 212, 213, 215, 216, 217, 312, 314, 451, 452; MTH 229, 230, 231; ED 431.

Communications Comprehensive Education

Special Note

The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. **No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000.** All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

Communications comprehensive education program prepares students to teach all communication courses in seventh and eighth grades plus speech and journalism courses in grades nine through twelve. The program requires completing at least 30 hours in speech, journalism, and organization communication content; professional education courses; and general education.

Degree Requirements

Bachelor of Science in Education Degree

General Education Requirements | 57

Professional Education Requirements | 47–49

Phase I*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 214, 216, 218, 220, 221, 223</td>
<td>14</td>
</tr>
</tbody>
</table>

Phase II*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ED 327, 302, 432, 464, 424, 321, 323; EDT 280</td>
<td>20</td>
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</tbody>
</table>

Phase III*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 429, 440</td>
<td>13–15</td>
</tr>
</tbody>
</table>

Communication Requirements | 90

Speech:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COM 101, 102, 111, 141, 221, 232, 333, 439, 457</td>
<td>29</td>
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</table>

Mass Communication:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 152, 256, 358, 360, 365, 411, 458, 464</td>
<td>30</td>
</tr>
</tbody>
</table>

Organizational Communication:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 303, 343, 441, 445, 447, 449, 453, 455</td>
<td>31</td>
</tr>
</tbody>
</table>

Total (minimum requirement) | 194–196

*Field and clinical experiences required.

Computer Science Education K–12

Special Note

The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. **No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000.** All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.
The computer science education program prepares students to teach computer science courses in K–12 schools in the state of Ohio. Course work in physics and math is required as part of this program. It is possible to combine this teaching field with mathematics education.

Degree Requirements—Computer Science Education K–12

Bachelor of Science in Education Degree

**General Education Requirements** 68

Required substitutions:
MTH 229, 230
PHY 240/200, 242/202, 244/204

**Professional Education Requirements** 50–52

**Phase I***
ED 214, 216, 218, 220, 221, 223 14

**Phase II***
ED 302, 321, 323, 327, 432, 450, 464; EDT 280; COM 101 23

**Phase III***
ED 429, 440 13–15

**Related Requirements** 10
MTH 253 or 255, 257 6
STT 360 4

**Computer Science Requirements** 51
CS 240, 241, 242, 400 16
CEG 260, 320, 433 12
CS 480 or 340 4
CS 316, 405, 470 12
EDT 487, 470 Logo/Logoeditor 7

**Electives** 11–13

**Total (minimum requirement)** 192

*Field and clinical experiences required.

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Early Childhood Education Pre-K/K–P Program

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. **No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000.** All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

**Certification Requirements—Early Childhood Education Pre-K/K–P**

**General Education Requirements** 63

Required substitutions:
Area Two—Fine and Performing Arts
Select ART 214
Area Three—The Non-Western World
Select CST 240
Area Four—Natural Sciences
Select CHM 245, PHY 245, BIO 345, GL 345

**Professional Education Requirements** 77–79

**Phase I***
ED 214, 216, 218, 220-B, 221, 223; EDE 230 16
### Earth Science Education

**Phase II**
- ED 302, 311, 315B, 317B, 321, 327, 437B, 464B; EDE 231, 303, 309, 312, 401; EDS 455; EDT 280

**Phase III**
- ED 440, 419

<table>
<thead>
<tr>
<th>Content Curriculum</th>
<th>41</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED 431; COM 103; ENG 340; GEO 201, 202, or 203; HPR 281 or 310, 260; HST 211, 212; MTH 243, 244; MUS 365B, and a 400-level science class (to be determined)</td>
<td></td>
</tr>
</tbody>
</table>

**Concentrations**
- (must select one of the following concentrations)
  - **Humanities/English**
    - ED 421; ENG 485; select one writing: ENG 302, 303, 344, 341. Also select three literature courses (each from a different group): Introduction to Literature ENG 255 or 211; American Literature ENG 355, 356, or 357; Literature for Young People EDT 463; Literature Multicultural Perspective ENG 205, or CST 230 (Literature)

**Humanities/Foreign Language and Culture**
- CLS 150, 160; select one of the following languages: FR 101, 102, 103, 201, 202; ML 211
- GER 101, 102, 103, 201, 202; ML 212
- RUS 101, 102, 103, 201, 202; ML 215
- SPN 101, 102, 103, 201, 202; ML 213

**Humanities/Interdisciplinary Arts**
- AED 441; select four courses from the following: MUS 214, ART 206, TH 147, DAN 111, ENG 204; select four courses from the following: ENG 211, 255; MUS 114; ART 207, 208, 209; TH 148, 149; DAN 101, 121

**Mathematics**
- MTH 345; ED 418; STT 343; select two of the following: MTH 128 or 129, 130, 131; select one of the following: EDT 485 or EDT 487

**Social Sciences**
- Select one: HST 218, 219; select one: HST 470, 475, 480, 485; select one: HST 318, 393, 445, 455, 465; select one: PLS 322, 331, 340, 351, 371; select one: GEO 325, 330, 370, 375

**Natural Sciences**

**Electives**
- 0–2

**Total (minimum requirement)**
- 197–215

*Field and clinical experiences required.

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**Special Note**

The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

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The earth science program prepares students to teach earth science and general science in the secondary school. The concentration in earth science provides intensive preparation in that area with courses in mineralogy, structural geology, and invertebrate paleontology. The program also includes basic and supporting courses in biology, chemistry, and physics, related course work in geography, and the professional education courses required of all candidates for secondary school certification. Students are strongly advised to complete at least one second teaching field in biology or chemistry or physics in addition to the basic program in earth science.

### Degree Requirements—Earth Science Education

**Bachelor of Science in Education Degree**

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required substitutions: CHM 121, 122, 123</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional Education Requirements</th>
<th>50–52</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td>14</td>
</tr>
<tr>
<td>ED 214, 216, 218, 220, 221, 223</td>
<td></td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td>23</td>
</tr>
<tr>
<td>ED 302, 321, 323, 327, 432, 464, 431</td>
<td></td>
</tr>
<tr>
<td>EDT 280; COM 101</td>
<td></td>
</tr>
<tr>
<td><strong>Phase III</strong></td>
<td>13–15</td>
</tr>
<tr>
<td>ED 429, 440</td>
<td></td>
</tr>
</tbody>
</table>
Elementary Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The minimum requirement for graduation with the Bachelor of Science in Education degree and Ohio certification in elementary education is 192 credit hours and a cumulative grade point average of 2.5. A minimum of 58 to 60 credit hours of professional education and a 30-hour area of concentration are required.

Degree Requirements—Elementary Education

Bachelor of Science in Education Degree

General Education Requirements

Required Substitutions:
Area Two—Fine and Performing Arts
Select ART 214
Area Three—The Non-Western World
Select CST 240
Area Four—Natural Sciences
Select CHM 245, PHY 245, BIO 345, GL 345

Professional Education Requirements 59–61

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 302, 311, 315, 316, 317, 321, 323, 327, 417, 437, 464; EDT 280 32

Phase III*
ED 419, 440 13–15

Content Curriculum 45
AED 431; COM 103; ENG 342, 340; HPR 281, 331; MTH 243, 244; MUS 365; GEO 201 or 202 or 203; HST 211, 212; and a 400-level science class (to be determined)

Concentrations 16–32
(must select one of the following concentrations)
The English education program is intended only for those seeking secondary certification. Departmental requirements are similar to those for the Bachelor of Arts degree in English, but college requirements differ. Advisors will be assigned in the College of Education and Human Services; however, all English education majors are welcome to consult the Department of English concerning the major program. It is suggested that students elect advanced courses in either American history or British history, depending on their major interest. Students are advised to consult the department for a list of the 300- to 400-level courses that will be offered during a given academic year.

Degree Requirements — English Education

Bachelor of Science in Education Degree

General Education Requirements

Elective Professional Education Requirements

Phase I*
ED 214, 216, 218, 220-221, 223

Phase II*
ED 321, 323, 327, 302, 432, 464, 442; EDT 280; COM 101

Phase III*
ED 429, 440

English Education Major Requirements

ENG 255, 341, 478 or 479
Choose one of the following:
ENG 204, 490; CST 230 (literature)
Choose four of the following:
ENG 351 or 352, 353 or 354, 355 or 356 or 357
and one additional 300-level literature course from 351–357.
Three of the following:
ENG 410, 420, 430, 440, 450, 460, 470, 490
Four hours of electives from the following:
ENG 302, 303, 330, 333, 343, 344, 480, 485

Electives

39–41

Second or supporting field suggested.

Total (minimum requirement) 192

*Field and clinical experiences required.

English Education as a Second Teaching Field

The following courses are required, including ENG 101, 102, 204 or 490 or CST 230; ENG 255, 341, 478 or 479; ENG 351 or 352, 353 or 354, 355 or 356 or 357; two 300- or 400-level electives in literature, linguistics, or writing; ED 432, 423.
General Science Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

General science may be elected as a second teaching field only. The following courses are required, including BIO 112, 114, 115; CHM 121, 122, 123; PHY 111/101, 112/102, 113/103; GL 251/252, 253/254, 255/256; MTH 229; ED 431.

History Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The history education program prepares students to teach history in the secondary schools. The program requires advanced work in U.S., European, and other history. Students must also complete the requirements of at least one second teaching field in a related social science (economics, geography, political science, or sociology). More than one supporting field is recommended. Advisors will be assigned in the College of Education and Human Services; however, students are encouraged to consult an advisor in the Department of History for specific course recommendations.

Degree Requirements—History Education

Bachelor of Science in Education Degree

General Education Requirements 57

Area Two—The Western World
Select HST 101, 102, 103

Professional Education Requirements 53–55

Phase I*
ED 214, 216, 218, 220, 221, 223

Phase II*
ED 321, 323, 327, 302, 432, 464, 439, 448; EDT 280; COM 101

Phase III*
ED 440, 429

History Education Major Requirements 37
HST 211, 212 6
U.S. history (upper division) 8
European history (upper division) 4
Non-Western history—Latin American, African, Asian (upper division) 8
History electives 11

Related Social Science
Second Teaching Field 45

Courses to complete the requirements of a second teaching field in one of the following areas: political science (recommended), sociology/psychology, geography, economics.

Electives 0–10

Total (minimum requirement) 192

*Field and clinical experiences required.

History Education as a Second Teaching Field

Forty-five credit hours of history are required, including: HST 101, 102, 103, 211, 212, plus upper division courses in U.S. history, non-Western and European history; ED 439, 448.
Languages Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

Degree Requirements—Languages Education K–12
Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 50–52

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 302, 321, 323, 327, 425, 432, 464; EDT 280; COM 101 23

Phase III*
ED 429, 440 13–15

Languages Major Requirements 67–74

Select one of the following concentrations:

French:
FR 101, 102, 103, 201, 202, 203 24
FR 311, 312, 321, 322, 331, 332, 361 26
ML 301 4
French electives (400 level) 16

German:
GER 101, 102, 103, 201, 202, 203 24
GER 311, 312, 321, 322, 331, 332 24
ML 302 4
German electives (400 level) 16

Spanish:
SPN 101, 102, 103, 201, 202, 203 24
SPN 321, 322, 331, 332, 333, 334 24
SPN 311, 312, 361 10
ML 303, 304 8
Spanish electives (400 level) 8

Total (minimum requirement) 192

*Field and clinical experiences required.

Latin Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

Degree Requirements—Latin Education 7–12
Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 50–52

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 302, 321, 323, 327, 425, 432, 464; EDT 280; COM 101 23

Phase III*
ED 429, 440 13–15

Major Requirements 46–48

Choose three Latin electives 12
Choose three Classics electives from:
CLS 100, 101, 150, 160, 300, 301, 320 10–12

Second Field

Total (minimum requirement) 192

*Field and clinical experiences required.
Mathematics Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The mathematics education program prepares students to teach mathematics in the secondary schools. Students may select either a physics sequence or a computer science sequence to fulfill the mathematics education major requirements.

Degree Requirements—Mathematics Education

Bachelor of Science in Education Degree

General Education Requirements 64–68

Required substitutions:
MTH 229, 230
If physics option is chosen, PHY 240/200, 242/202, 244/204 can be applied toward general education requirements.

Professional Education Requirements 53–55

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 327, 321, 323, 432, 434, 437, 438, 321, 323; EDT 280; COM 101 26

Phase III*
ED 429, 440 13–15

Mathematics Education Major Requirements 52

MTH 231 5
MTH 280, 255, 355, 431, 440, 451, 471 21
STT 360 4

Two of the following:
MTH 432, 452, 457, 458, 472; STT 361 6–7

Students must choose either a physics or computer science option.

Physics option: 16
PHY 240/200, 242/202, 244/204
If these courses are applied toward general education requirements, do not add these credit hours toward major requirements.

Computer science option: 16
CS 141, 142, 241, 242, or CS 141, 240, 241, 242
CEG 260, 320 recommended
MTH 257 strongly recommended

Electives 23
Second or supporting field suggested.

Total (minimum requirement) 192

*Field and clinical experiences required.

Mathematics Education as a Second Teaching Field

Students who elect mathematics as a second teaching field are required to take the following courses MTH 229, 230, 231, 280, 355, 431, 440, 451, 471; STT 360. Two of the following are required: MTH 432, 452, 457, 458, 472; STT 361; ED 437, 438.

Physical Education K–12

Degree Requirements—Physical Education K–12*

Bachelor of Science in Education Degree

General Education Requirements 61

Required substitutions:
HPR 250, 251, 350, 351

Professional Education Requirements 53–55

Phase I
ED 214, 216, 218, 220, 221, 223 14

Phase II
ED 327, 321, 323, 432, 434, 437, 438, 321, 323; EDT 280; COM 101 11

Phase III
ED 419, 429, 440 13–15

Physical Education Major Requirements 78–79

HPR 212, 220, 221, 241 12
HPR 340, 355 7
HPR 410, 440, 450, 455 15

Sports Skills Requirement 14–15

Seven different sports are required as follows: two individual sports, two team sports, two fitness areas, and one lifetime sport. Three courses must be at the intermediate level or higher and the remaining four courses can be taken at the beginning level.
Electives
Students are required to select 30 hours of electives from an approved list and may choose to concentrate these electives in an area such as adapted physical education, athletic training, coaching, or exercise science.

Total (minimum required) 192

*The Department of Health, Physical Education, and Recreation is currently reviewing its Physical Education K-12 program. Prospective majors should see the HPR department chair for current program requirements.
†Field and clinical experiences required.
‡K–12 Physical Education majors who desire to add health education certification are required to take HPR 230, 235, 330, and 380.

Physics Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The physics education program prepares students to teach physics, integrated physical science, and general science in the secondary school. The concentration in physics provides intensive preparation in that area with courses in modern physics, electricity and magnetism, and analytical mechanics. The program also includes basic and supporting courses in biology, earth science, and chemistry, related course work in mathematics, and the required professional education courses. Students are strongly advised to complete a second teaching field in biological sciences, chemistry, earth science, or mathematics, in addition to the basic program in physics.

Degree Requirements—Physics Education

Bachelor of Science in Education Degree

Professional Education Requirements 50–52

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 327, 328, 343, 464, 431, 321, 323; EDT 280; COM 101 23

Phase III*
ED 429, 440 13–15

Physics Concentration Requirements 81.5

PHY 107/117 4
PHY 260, 450, 451 10
PHY 315, 316, 371, 372 12
BIO 112, 114, 115 12
CHM 121, 122, 123 15
GL 251/252, 253/254, 255/256 13.5
MTH 231, 232, 233 15

Total (minimum requirement) 199.5

*Field and clinical experiences required.

Physics Education as a Second Teaching Field


Political Science Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.
Political science may be chosen as a second teaching field only. To be recommended for Ohio Provisional Certification in this teaching field, students must also have completed the program of a major teaching field. The following courses are required, including PLS 212, 222, 301, 305, 321, 322, 323, 324, 331, 335, 380, 440; ED 439, 448.

Psychology/Sociology Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

Psychology/Sociology education may be chosen as a second teaching field only. To be recommended for Ohio Provisional Certification in this teaching field, students must also have completed the program of a major teaching field. The following courses are required, including PSY 105, 110, 311, 321, 331, 351; SOC 200, 201. Select four of the following: SOC 221, 301, 330, 332, 340, 360, 363; ED 439, 448.

Rehabilitation Services

The rehabilitation services program trains graduates to work in human services agencies that serve persons 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 modifying a program to reflect their special interests. Students must have a 2.5 GPA for admission to the program, and must earn a minimum grade of 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 specific 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

General Education Requirements

Area Four — Natural Sciences
Select BIO 105, 106, 107

Professional Rehabilitation Requirements

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

Related Requirements

MGT 200
Sociology/Anthropology
Psychology (Must include PSY 311)
COM 101, 102, 141
Electives

Suggested electives could include:
RHB 213, 214, 223, 305, 405, 406
Other electives should be taken in an area in which the student desires to specialize/concentrate.

Total

*An articulation agreement exists with Sinclair Community College, Clark State Community College, Edison State Community College, and North Central Technical College. Graduates of these colleges in the mental health/social services program may apply many of their previous courses to the rehabilitation services program, Bachelor of Science degree.

Minor in Rehabilitation Services

The minor in rehabilitation services requires 34 credit hours: RHB 201, 301, 303, 304, 401, 402, 403 (6 credit hours), 407.
Science Comprehensive Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The completion of the science comprehensive program permits students to teach any science course offered in the secondary school. The program includes basic and supporting courses in physics, chemistry, biology, earth science, mathematics, and the professional education courses required of all candidates for secondary school certification.

Degree Requirements—Science Comprehensive Education

Bachelor of Science in Education Degree

| General Education Requirements | 64 |
| Required substitutions: MTH 229, 230 | |
| Area Four—Natural Sciences | |
| Select BIO 112, 114, 115 | |
| Professional Education Requirements | 50–52 |
| **Phase I** | |
| ED 214, 216, 218, 220, 221, 223 | 14 |
| **Phase II** | |
| ED 327, 362, 432, 464, 431, 321, 323; EDT 280; COM 101 | 23 |
| **Phase III** | |
| ED 429, 440 | 13–15 |

Science Comprehensive Education

| Major Requirements | 120.5 |
| BIO 252, 278, 279, 426 | 18 |
| Two of the following: BIO 254, 255, 256, 303 | 10 |
| CHM 121, 122, 123, or 191, 192, 193 | 15 |
| CHM 211/215, 212/216, 213/217 | 18 |
| GEO 201, 334 | 7 |
| GL 251/252, 253/254, 255/256, 311 or 341, 342 | 22.5 |
| PHY 107/117, 240/200, 242/202, 244/204, 260, 315, 316 | 30 |
| **Total (minimum requirement)** | 234.5–236.5 |

*Field and clinical experiences required.

Social Studies Comprehensive Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The social studies comprehensive program prepares students to teach all social studies courses in seventh and eighth grades plus social studies courses for ninth through twelfth grades in which they have completed at least 30 credit hours. The program consists of a 30-hour requirement of basic and advanced courses in American, European, and non-Western history; a 30-hour requirement in political science; and a choice of the third 30-hour requirement in economics, geography, or psychology/sociology.
Degree Requirements—Social Studies Comprehensive Education

Bachelor of Science in Education Degree

General Education Requirements 57
Area Two—Select REL 204
Professional Education Requirements 53–55

Phase I*
ED 214, 216, 218, 220, 221, 223 14

Phase II*
ED 321, 323, 327, 302, 432, 464, 439, 448; EDT 280; COM 101 26

Phase III*
ED 429, 440 13–15

Social Studies Comprehensive Education Major Requirements 84 – 86
HST 211, 212 6
American History (upper division) 8
European History (upper division) 4
Non-Western History (upper division) 8
PLS 212, 222 8
Choose from the following:
PLS 301, 305, 321, 322, 323, 324, 331, 335, 380, 440 20
Choose one of the following concentrations 30 – 32

Geography
GEO 201, 202, or 203 (choose one) 3
Choose from the following:
GEO 303, 311, 325, 330, 331, 340, 343, 354, 360, 365, 370, 375 28–29

Economics
EC 201, 202, 203 (may substitute for EC 200) 9
Choose from the following:

Psychology/Sociology
SOC 201 3
PSY 110, 311, 331, 351 16
Choose three from the following:
SOC 221, 301, 330, 332, 340, 360, 363 11–12

Total (minimum requirement) 194 – 198
*Field and clinical experiences required

Special Education

Special Note
The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.

The undergraduate program at Wright State for teaching exceptional individuals has as its purpose preparation of competent teachers to work with persons exhibiting marked learning differences due to cognitive, psychomotor, or affective handicaps. Recommendation for certification can be earned in areas of specific learning disabilities (SLD), multihandicapped (MH), developmentally handicapped (DH), and orthopedically handicapped (OH).

Prospective certification candidates will pursue education and training experiences in liberal arts, professional education, and special education. The special education requirements vary by certification area, and student teaching is completed in a classroom with individuals for whom certification is being earned. Observation and participation in school sites are integrated and essential requirements in the course patterns.

Degree Requirements—Special Education

General Education 63

Required substitutions:
Area Two—Fine and Performing Arts
Select ART 214
Area Three—The Non-Western World
Select CST 240
Area Four—Natural Sciences
Select CHM 245, PHY 245, BIO 345, GL 345

Professional Education Requirements 59–61

Phase I*
ED 214, 216, 221, 218, 220, 223 14
Visual Arts K–12

**Special Note**

The following certification/licensure program is in the process of being changed to a post-baccalaureate program. It will build upon new undergraduate degrees being designed by other colleges in the university. **No student will be admitted to this program after the end of spring quarter 1997. Those admitted to the present program must complete that program no later than the end of spring quarter 2000. All subsequent admissions (effective beginning summer quarter 1997) must be for the new program. For the most current details and information, please contact the College of Education and Human Services, Office of Student Services, 321 Millett Hall or call 873-4508.**

Upon graduation, the visual arts major is certified to teach art from the kindergarten level through grade twelve. Philosophy and methodology courses and numerous studio/craft courses help prepare students for teaching at all levels. Student teaching in art and additional clinical situations are included in the program. Graduate courses are also offered in art education.

**Degree Requirements—Visual Arts**

**Bachelor of Science in Education Degree**

| General Education Requirements | 57 |
| Professional Education Requirements | 51–53 |

**Phase I**

ED 214, 216, 218, 220, 221, 223

**Phase II**

ED 327, 302, 432, 464; AED 438; ED 321, 323; EDT 280; COM 101

**Phase III**

ED 429, 440

**Visual Arts Requirements**

68

AED 214, 224, 423, 431, 432, 441 21
AT 444 3
ART 206, 207, 208, 209, 228, 211, 212, 347, 348, 367 or 368 or 369 40
Electives chosen from AED 225, 424, 436, 437, 425, 426; ART 349, 258, 368, 369, 367, 378, 328, 213, 467, 468, 469; AT 370, 429 4
Electives 16–18

Total (minimum requirement) 192

*Field and clinical experiences required.
Vocational Business Education

Vocational business education leads to the Bachelor of Science in Education degree and state certification. The program is designed to prepare outstanding teaching professionals in vocational business education by offering a balanced program combining general education, professional education, and business content. The program is designed to prepare outstanding teaching professionals in vocational business education by offering a balanced program combining general education, professional education, and business content. The vocational business certificate is valid for teaching the subjects named in the certificate (business education comprehensive with shorthand and data processing; business education without data processing; business education without shorthand; and business education without data processing and shorthand). This certification also requires technical course work and two years of recent related work experience in the teaching area or a directed occupational experience under the supervision of a vocational teacher educator. A candidate completing the requirements for business comprehensive education who has two years of recent related work experience can take three additional courses (VOE 407, VOE 408, and OA 401) and be eligible for recommendation for the vocational business education certificate.

Degree Requirements—Vocational Business Education

Bachelor of Science in Education Degree

General Education Requirements 54

Professional Education Requirements 55–57

Phase I
ED 214, 216, 218, 220, 221, 223 14

Phase II
ED 302, 321, 323, 327, 432, 464 14
EDT 433, 434 8
VOE 407, 408 6

Phase III
ED 429, 440 13–15

Related Courses
COM 101 3
EDT 280 3

Vocational Business Education Content Requirements 78–81

ACC 201, 202, 203 9
CS 205 4
EC 201, 202, 203, 300 12
EDT 335 3
ENG 330 4
LAW 350 3
MGT 301 3

MIS 100 3
MKT 301, 302 6
MTH 127 3
OA 211, 212, 213 9
OA 220, 221, 222 9
OA 305, 306 6
OA 401 1–4
OA 411 3

Shorthand Option
EDT 435 (Phase II) 3
OA 201, 202, 203, 301 12

Data Processing Option
CS 141, 142 8
EDT 487 4

Total (minimum requirement) 193–198

*Field and clinical experiences required.

Vocational Business Education

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

Option I—Intensive Vocational Major

This option is for practicing certificated vocational teachers who completed or are currently enrolled in the 36 quarter hour vocational preservice program and who are seeking a Bachelor of Science in education. No other certification will be earned.

Bachelor of Science in Education Degree

General Education Requirements 60

Preprofessional and Professional Education Requirements 47
ED 301, 303, 333 13
EDT 280 3
VOE 431, 471, 472, 473, 474, 475, 476, 477, 478 24
VOE 479 3–6
ED 458 1–9
**Vocational Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>VOE 406, 410, 411, 455, 456, 458</td>
<td>18</td>
</tr>
<tr>
<td>OSA 210</td>
<td>3</td>
</tr>
<tr>
<td>CS 205</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total (minimum requirement)** 192

*VOE 471 may be substituted for VOE 460, 461, 462.

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**Bachelor of Science in Education Degree**

**General Education Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
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<td>22</td>
</tr>
<tr>
<td>OSA 429</td>
<td>4</td>
</tr>
<tr>
<td>VAC 280</td>
<td>3</td>
</tr>
<tr>
<td>OSA 301, 303, 333</td>
<td>13</td>
</tr>
</tbody>
</table>

**Vocational Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

**Total (minimum requirement)** 192

*VOE 471 may be substituted for VOE 460, 461, 462.

---

**Option II—Dual Certification**

This option is for practicing certificated vocational teachers who completed or are currently enrolled in the 36 quarter hour vocational preservice program and who are seeking a Bachelor of Science in education and certification in another teaching area in secondary education. Approximately 45 hours in a second teaching area must be completed to meet certification requirements.

**Bachelor of Science in Education Degree**

**General Education Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOE 402, 403, 404, 405, 411, 431, 460, 461, 462, 466</td>
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</tr>
<tr>
<td>OSA 429</td>
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<tr>
<td>VAC 280</td>
<td>3</td>
</tr>
<tr>
<td>OSA 301, 303, 333</td>
<td>13</td>
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</table>

**Vocational Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

**Total (minimum requirement)** 192

*VOE 471 may be substituted for VOE 460, 461, 462.

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**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 certification in the specific area of the technical major. These students must also meet all other degree requirements and have two-years recent related work experience to meet certification requirements.

**Bachelor of Science in Education Degree**

**General Education Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
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</thead>
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</tr>
<tr>
<td>OSA 429</td>
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<tr>
<td>VAC 280</td>
<td>3</td>
</tr>
<tr>
<td>OSA 301, 303, 333</td>
<td>13</td>
</tr>
</tbody>
</table>

**Vocational Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

**Total (minimum requirement)** 192

*VOE 471 may be substituted for VOE 460, 461, 462.

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**Vocational Marketing Education**

The vocational marketing education program is designed to prepare outstanding teaching professionals by offering a balanced program that combines general education, professional education, and an in-depth study of the theory and practice of marketing management. The teaching profession is the traditional goal of most marketing education majors. Program requirements prepare the graduate for a Bachelor of Science in Education degree and vocational certification in marketing education.

**Degree Requirements—Vocational Marketing Education**

**Bachelor of Science in Education Degree**

**General Education Requirements**

<table>
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<tr>
<th>Course Code</th>
<th>Credit Hours</th>
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<tr>
<td>OSA 402, 403, 404, 405, 411, 431, 460, 461, 462, 466</td>
<td>22</td>
</tr>
<tr>
<td>OSA 429</td>
<td>4</td>
</tr>
<tr>
<td>VAC 280</td>
<td>3</td>
</tr>
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<td>OSA 301, 303, 333</td>
<td>13</td>
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</table>

**Vocational Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
</table>

**Total (minimum requirement)** 192

*VOE 471 may be substituted for VOE 460, 461, 462.

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**Phase I**

<table>
<thead>
<tr>
<th>Course Code</th>
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<td>OSA 214, 216, 218, 220, 221, 223</td>
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**Phase II**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSA 302, 321, 323, 327, 432, 464; OSA 467, 468, 481</td>
<td>24</td>
</tr>
</tbody>
</table>
Phase III

ED 429, 440; VOE 469

Curriculum Content

ACC 201, 202, 203
COM 102
CS 205
EC 201, 202, 203
EDT 335
ENG 330
LAW 350
MGT 301
MKT 301, 302, 303, 336, 401, 435, 461
Choose one only:
MKT 416, 421, 431, 444
OA 210, 305, 411
VOE 401

Related Courses

COM 101
EDT 280

Total (minimum requirement) 192

*Field and clinical experiences required.

Practical work experience in a recognized marketing occupation is also a graduation requirement in the marketing education program. To meet this requirement, students participate in a directed occupational experience under the supervision of a vocational teacher educator.
ENGINEERING AND COMPUTER SCIENCE
The College of Engineering and Computer Science offers eight undergraduate degree programs to prepare students for professional careers. The engineering programs are accredited by the Accreditation Board for Engineering and Technology (ABET). The computer science program is accredited by the Computing Sciences Accreditation Board (CSAB). The programs of study are regularly updated so students can take advantage of the latest technological advances.

The college offers master's degrees in engineering, computer engineering, and computer science. A Ph.D. program is offered 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 numerous Sun, DEC, and Silicon Graphics file servers and workstations as well as X-windowing terminals and personal computers. Access is also available to the Ohio Supercomputer through the Ohio Academic and Research Network (OARNET).

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 Division 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 grade point average of at least 2.25. Computer science students must attain a cumulative grade point average 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 above. Transfer students who do not meet these requirements will be assigned to the University Division 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.

Students who believe they have the knowledge and background to take a particular course, but who do not meet all of the requirements for that course, may petition the department for permission to enroll in the course. The petition must be presented to the department no later than two weeks (14 days) before the beginning of the quarter.

Degrees and Areas of Study

Bachelor of Science degrees are offered in biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, human factors engineering, materials science and engineering, and mechanical 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.
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 grade point average and at least a 2.0 cumulative grade point average 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 them 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 Amateur Radio Club; American Institute for Aeronautics and Astronautics (AIAA); American Society of Mechanical Engineers (ASME); American Society of Metals International; Association for Computing Machinery (ACM); Biomedical Engineering Society (BMES); Human Factors and Ergonomics Society; Institute of Electrical and Electronics Engineers (IEEE); Institute of Electrical and Electronics Engineers Computer Society (IEEECS); National Society of Black Engineers (NSBE); Ohio Society of Professional Engineers (OSPE); Society of Automotive Engineers (SAE); Society of Women Engineers (SWE); 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 and Human Factors Engineering

*Professors* Hangartner, Phillips, Rowley
*Associate Professors* Cacioppo (chair), Gallimore, He, Reynolds
*Assistant Professor* Narayanan

The Department of Biomedical and Human Factors Engineering currently offers undergraduate programs in biomedical engineering and human factors engineering leading to the degrees of Bachelor of Science in Biomedical Engineering or Bachelor of Science in Human Factors Engineering.

Curriculum design changes from time to time to meet educational and accreditation needs. The following curricula are typical; however, students should check with the department for the current curriculum guides.

Biomedical Engineering

Biomedical engineering is concerned with solving and understanding problems in biology and medicine using principles, methods, and approaches drawn from engineering science and technology.
The undergraduate biomedical engineering program is a four-year program accredited by the Accreditation Board for Engineering and Technology (ABET). Biomedical engineering students, working in modern teaching laboratories structured around computer-based engineering work stations, receive intensive academic training in engineering design and analysis principles as well as life science concepts. The senior design course brings all of the course work to bear on actual biomedical engineering problems that help prepare students for employment.

The curriculum provides a mix of courses in engineering, life sciences, math, physical science, electronics, control systems, mechanics, and computers, while also stressing communication skills and general education.

Current efforts in biomedical engineering include developing medical and surgical instrumentation, designing rehabilitation assistive devices, interfacing complex systems in data collection and analysis, medical imaging, and adapting computer technology to assist people with severe physical disabilities.

Two separate curricula are available. Curriculum A is the basic degree program. Curriculum B is a premedical program that prepares students to apply to medical school. Students who transfer between curricula must complete the final curriculum in total. Graduates may also be qualified to pursue graduate studies in engineering or the life sciences.

Degree Requirements—Biomedical Engineering

Bachelor of Science in Biomedical Engineering Degree

General Education Requirements 68

Required substitutions:
MTH 229, 230
PHY 240/200, 242/202, 244/204

Engineering Requirements 93

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<td>BME 419, 420, 422, 428, 439, 440</td>
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<tr>
<td>BME 455 (waived for curriculum B)</td>
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<td>BME 461, 462, 463</td>
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<tr>
<td>BME 465 (waived for curriculum B)</td>
<td>3</td>
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<td>BME 464, 493, 494, 495</td>
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<td>EGR 153</td>
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<tr>
<td>EE 301/302, 321, 401/402, 413/414</td>
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<td>ME 202 (waived for curriculum B)</td>
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<tr>
<td>ME 212, 213, 315</td>
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<td>HFE 306 (waived for curriculum B)</td>
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Related Course Requirements 41

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<td>CHM 121, 122</td>
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Curriculum B additional courses 23

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<td>CHM 123, 211/215, 212/216, 213/217</td>
<td></td>
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Total Curriculum A 202

Total Curriculum B 211

Human Factors Engineering

Human factors is an engineering discipline concerned with the design and evaluation of machine systems for human use, with emphasis on the interface between the operator and the system. The undergraduate human factors engineering program is a four-year program accredited by the Accreditation Board for Engineering and Technology (ABET).

The problem facing the human factors engineer is to describe the pertinent properties of human and machine, rationally allot tasks to one or the other, and provide a flow of information between the two by optimizing displays and controls.

Human factors engineering design can be characterized as user-centered. Systems are designed for optimum person-system interaction, with consideration given to effectiveness, comfort, and safety. Three key design goals can be identified: first, to ease the burden placed on the human operator; second, to build more efficient machine systems; and third, to design for maintainability and reliability. These and other design principles are presented in courses such as control systems, cognitive processes, systems modeling, analytic methods, and human factors engineering design applications.

Human factors engineers work in such diverse areas as automobile design, highway safety, aviation and space programs, household appliances, manufacturing, biomedical applications, protective body gear, and automated systems. Graduates may qualify for graduate studies in human factors engineering and other classical engineering disciplines.

Degree Requirements—Human Factors Engineering

Bachelor of Science in Human Factors Engineering Degree

General Education Requirements 68

Required substitutions:
MTH 229, 230
PHY 240/200, 242/202, 244/204

Engineering Requirements 87

<table>
<thead>
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<td>BME 419, 428, 440</td>
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<tr>
<td>EGR 335, 480</td>
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<tr>
<td>EE 301/302, 321, 401/402</td>
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<td>EE 413/414</td>
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</tr>
</tbody>
</table>
Computer Engineering

Professors Brandeberry, Garcia (chair), Rattan
Associate Professors Jean, Mateti, Rizki, Ross, Shock, Siferd
Assistant Professors Awwal, J. S. Chen, P. Chen, Chung
Instructor Fernando

The Bachelor of Science degree program in computer engineering is accredited by 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.

Graduates of this 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

General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>HFE 471, 472, 473, 474, 476</td>
<td>17</td>
</tr>
<tr>
<td>ME 202, 212, 213, 315</td>
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<tr>
<td>CHM 121, 122</td>
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<tr>
<td>CS 220</td>
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<tr>
<td>MTH 231, 232, 233</td>
<td>15</td>
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<tr>
<td>STT 360, 361</td>
<td>8</td>
</tr>
<tr>
<td>PSY 110, 321, 371</td>
<td>12</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>204</strong></td>
</tr>
</tbody>
</table>

Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 240, 241, 242, 400, 415</td>
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</tr>
<tr>
<td>CEG 260, 320, 360</td>
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<tr>
<td>CEG 402, 433, 434, 453, 460</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
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</table>

Engineering Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ME 212, 213</td>
<td>8</td>
</tr>
<tr>
<td>EE 301/302, 303/304, 321, 322</td>
<td>17</td>
</tr>
<tr>
<td>EE 331, 345, 431/434, 449</td>
<td>16</td>
</tr>
<tr>
<td>EGR 335</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

Related Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 121</td>
<td>5</td>
</tr>
<tr>
<td>MTH 231, 232, 233, 253, 257</td>
<td>21</td>
</tr>
<tr>
<td>PHY 300, 420</td>
<td>6</td>
</tr>
<tr>
<td>STT 363</td>
<td>3</td>
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<tr>
<td><strong>Electives</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

Electives must be chosen with the consent of an advisor to provide coherent major concentration and design experience.

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Curriculum design changes from time to time to meet educational and accreditation needs. The curriculum outlined is typical; however, students should check with the department for the current curriculum guide. All programs should be planned in consultation with an advisor.

Computer Science

Professors Davis (Emeritus), Garcia (chair), McKee
Associate Professors Jean, Mateti, Rizki, Shock, Sudkamp
Assistant Professors Asthagiri, Chung, d'Auriol, Hawley (WSU–Lake Campus), Stucki, Thirunarayan
Instructors Daniel, Davidson, Meyer, Spiegel

Adjunct Research Associate Professor Tamburino

The Bachelor of Science degree program in computer science is accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board (CSAB). 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 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 mathematics, science, business, or the arts.
# Degree Requirements—Computer Science

## Bachelor of Science in Computer Science Degree

### General Education Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required substitutions:</td>
<td></td>
</tr>
<tr>
<td>MTH 229, 230</td>
<td></td>
</tr>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
<td></td>
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</tbody>
</table>

### Computer Science Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 240, 241, 242</td>
<td>12</td>
</tr>
<tr>
<td>CS 400, 405, 415, 466, 480</td>
<td>19</td>
</tr>
</tbody>
</table>

### Computer Engineering Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEG 260, 360</td>
<td>8</td>
</tr>
<tr>
<td>CEG 320</td>
<td>4</td>
</tr>
<tr>
<td>CEG 433, 434, 460</td>
<td>12</td>
</tr>
</tbody>
</table>

### Computer Science/Engineering Electives

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

### Mathematics/Statistics Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 231, 253, 257</td>
<td>11</td>
</tr>
<tr>
<td>STT 360, 361</td>
<td>8</td>
</tr>
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</table>

### Language Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (200 level or above) or foreign language*</td>
<td>9</td>
</tr>
<tr>
<td>EGR 335</td>
<td>3</td>
</tr>
</tbody>
</table>

### Second Concentration Requirements

Twenty-four hours from a single liberal arts department or a specific program approved by the computer science and engineering department.

### Science Requirements†

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 121 or BIO 112 or physics course with PHY 252 as a prerequisite</td>
<td>3–5</td>
</tr>
</tbody>
</table>

### Elective Requirements

Select from acceptable general education list, or any 200-level and above course.

### Total

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>204</td>
</tr>
</tbody>
</table>

*Includes comparative literature, linguistics, modern language humanities, and classics (CLS, CPL, DN, FR, GER, GR, ITA, JPN, LAT, LL, ML, POL, POR, RUS, SPN)

†The number of hours taken to fulfill the science requirement in each program will determine the number of hours required for the other areas with variable hours in each program (e.g., for B.S.C.S., 3 hours for science requirements, 7 hours for elective requirements).

Curriculum design changes from time to time to meet educational and accreditation needs. The curriculum outlined is typical; however, students should check with the department for the current curriculum guide. All programs should be planned in consultation with an advisor.

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### Specific Programs

#### Business as a Second Concentration

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Concentration Requirements</td>
<td>33–35</td>
</tr>
<tr>
<td>EC 201, 202, 203*</td>
<td>9</td>
</tr>
<tr>
<td>ACC 201, 202, 203</td>
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<tr>
<td>MGT 301</td>
<td>3</td>
</tr>
<tr>
<td>MKT 301</td>
<td>3</td>
</tr>
<tr>
<td>FIN 301</td>
<td>3</td>
</tr>
<tr>
<td>Electives†</td>
<td>6–8</td>
</tr>
</tbody>
</table>

*Substitute for EC 200 in Area Four of the general education requirements.

†Choose two courses from the following: FIN 302, MGT 302, MKT 302, MS 203, LAW 350, CS 225, CS 300, CS 301.

#### Science Option as a Second Concentration

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Concentration Requirements</td>
<td>26–28</td>
</tr>
<tr>
<td>MTH, EE*</td>
<td>12</td>
</tr>
</tbody>
</table>

Courses from one mathematics, science, or engineering department program


The electives requirement for this option is reduced to 3 hours.

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### Electrical Engineering

**Professors** Brandeberry, Kazimierczuk, Rattan, Shenoi

**Associate Professors** Bethke, Garber, Hannen, McCormick, Misra, Naishadham, Pujara, Shaw, Siferd (chair), Spalding, Xue

**Assistant Professors** Chen, Hong, Shiu

**Instructor** Smith

The Department of Electrical Engineering offers programs leading to the Bachelor of Science in Electrical Engineering degree (B.S.E.E.) and the Bachelor of Science in Engineering Physics degree (B.S.E.P.). These two engineering programs are accredited by the Accreditation Board for Engineering and Technology (ABET).

### Electrical Engineering

Electrical engineers find challenging employment opportunities in industry and the service sectors of the economy, as well as in local, regional, and national governments. Career areas include research, design, teaching, management, manufacturing, and marketing.
The electrical engineering degree program is crafted to provide a balanced and modern curriculum. The program emphasizes engineering design with extensive laboratory experience. Courses in computer language and applications, mathematics, chemistry, physics, engineering mechanics, and electric circuits are balanced with English, social science, and the humanities to provide a well-rounded foundation for the student.

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 course in either control systems, electronic systems, communication systems, electromagnetic systems, or design projects with industry is required to provide strength and depth for each graduate. For example, the two required courses in electronic circuits lead to a four-course elective sequence in very large scale integrated (VLSI) circuit design. For their design project, students lay out a chip using computer-aided design software. Similarly, the required course in control theory leads to analog and digital controller design courses.

In the capstone course, students design and test sophisticated control circuits in department laboratories. Qualified students are given the opportunity to perform independent research under faculty guidance.

Degree Requirements—Electrical Engineering

Bachelor of Science in Electrical Engineering Degree

General Education Requirements

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>68</td>
</tr>
<tr>
<td>substitutions</td>
<td></td>
</tr>
<tr>
<td>MTH 229, 230</td>
<td></td>
</tr>
<tr>
<td>PHY 240/200, 242/202, 244/204</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>61</td>
</tr>
<tr>
<td>Required</td>
<td></td>
</tr>
<tr>
<td>ME 212, 213, 315</td>
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</tr>
<tr>
<td>EE 260, 301/302, 303/304, 321, 322, 325, 331, 345</td>
<td>32</td>
</tr>
<tr>
<td>EE 413/414, 421, 431/434</td>
<td>13</td>
</tr>
<tr>
<td>CEG 411</td>
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</tr>
<tr>
<td>Related Course</td>
<td>38</td>
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<tr>
<td>Requirements</td>
<td></td>
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<tr>
<td>CHM 121, 122</td>
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<tr>
<td>CS 220</td>
<td>4</td>
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<td>MTH 231, 232, 233, 253</td>
<td>18</td>
</tr>
<tr>
<td>STT 363</td>
<td>3</td>
</tr>
<tr>
<td>EGR 335</td>
<td>3</td>
</tr>
</tbody>
</table>

| Technical Electives* | 8      |
| Engineering Electives† | 28     |
| Design Sequence I—Electronic Systems | EE 449, 451, 454, 455 | 16      |
| Design Sequence II—Control Systems | EE 415/416, 417, 418 | 12      |
| Design Sequence III—Communication Systems | EE 473, 474, 476 | 12      |
| Design Sequence IV—Electromagnetic Systems | EE 346, 446 | 8       |
| Design Sequence V—Design Projects with Industry | EE 499 (3 quarters) | 12      |

Total 203

*Technical elective courses (8 credit hours required) 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 College of Business Administration, and approved by the advisor. Required courses such as MTH 200, 228, and 300; MS 201; PSE 220; and co-listed courses may not be used as technical elective courses.

†Engineering elective courses (28 credit hours required) are to be selected from those numbered 300 and above in the College of Engineering and Computer Science and approved by the advisor. Electives must be chosen such that ABET design content is at least 24 credit hours. At least 20 of the 28 credit hours must be from electrical engineering courses and at least one design sequence must be completed.

Engineering Physics

Engineering physics is an interdisciplinary program offered jointly by the Department of Electrical Engineering and the Department of Physics. As the name suggests, this program merges a strong knowledge of the basic science of physics with the knowledge of designing unique engineering systems, processes, and devices. An engineering physicist complements the link between the scientist and the engineer by applying theoretical approaches to practical problems.

This curriculum contains a core of engineering science, mathematics, and physics, which prepares students for research and development work in industry. Study in this field also provides a sound foundation for graduate study in physics, applied physics, nuclear science and engineering, aerospace engineering, and other areas of engineering research based on physics and applied mathematics. It opens the way to several modern technological areas such as recent advances in semiconductors, lasers, aerodynamics, plasmas, radio astronomy, electron-
optics, superconductivity, space science, and transducer instrumentation. The engineering physicist, for example, is ideally prepared to work on such problems as nonpolluting energy sources or to develop new technologies that use natural resources more efficiently.

The favorable faculty/student ratio in this program allows for independent research or design projects under faculty supervision in laboratories or, in some cases, with external government and industry laboratories. These hands-on senior projects give students valuable experience that better equips them to find employment in industry as well as in government laboratories.

Degree Requirements—
Engineering Physics

Bachelor of Science in Engineering Physics Degree

General Education Requirements

Required substitutions:
MTH 229, 230
PHY 240/200, 242/202, 244/204

Engineering Requirements

ME 202, 212, 315 52–54
(PHY 420 may be substituted for ME 315)
EE 301/302, 303/304, 321, 322, 331 20
EE 413/414, 415/416, 421 12
EP 231, 494 9–10
(Other sets of design sequences may be substituted for 9 credit hours of EP 494)

Physics Requirements

PHY 260 4
PHY 316, 371, 372 9
PHY 450, 451, 452, 460, 461 16–18
(Students may substitute EP 300, 301 for PHY 460, 461)

Related Course Requirements

CHM 121, 122 10
CS 220 4–8
(CS 141/142 or EGR 153 may be substituted for CS 220)
MTH 231, 232, 233, 253, 333 21

Technical Electives

At least three courses are to be chosen from:
CEG 411; EE 431/434; EGR 482; ME 317, 318;
PHY 322, 432.
Technical electives must be chosen to provide at least 24 ABET design hours in the total curriculum.

Total (minimum hours required) 203

Mechanical and Materials Engineering

Professors Dadras, Faghri, Grandhi, Lipsitt, Mehrotra, J. Thomas, Weiss
Associate Professors Bethke (chair), Cornelius, Hong, Srinivasan
Assistant Professors Friar (Emeritus), Lieh, Slater, S. Thomas

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 computation, modeling, graphics, and process control.

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.
Degree Requirements—
Mechanical Engineering

Bachelor of Science in Mechanical Engineering Degree

General Education Requirements 68

Required substitutions:
MTH 229, 230
PHY 240/200, 242/202, 244/204

Engineering Requirements 84

EGR 153 4
EE 301/302, 321, 401/402, 413/414 18
ME 202, 212, 213, 313 16
ME 315, 316, 317, 318, 370, 371, 460 27
ME 408, 414, 415, 490, 491 19

Related Course Requirements 35

CHM 121, 122 10
MTH 231, 232, 233, 253 18
STT 363 3
CS 316 4

Technical Electives* 18

Includes three courses to be selected from an approved list.

Total 205

*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 15 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, most 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.
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 grade point average of at least a 2.0, and a minimum of 24 credit hours completed including ENG 101 and 102 (with a grade of C or better in both), HST 101, and two other general education courses.

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.Mus. Programs

Students enter the college’s B.Mus. 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 check sheet, 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 check sheet.
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. Free electives give students a chance to explore subjects of personal interest or to take courses that improve their employment prospects. These majors prepare students for careers in fields such as communication, foreign service, government, journalism, teaching, writing and editing, and social work. 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.

Programs leading to the B.A. degree are offered in anthropology, art, art history, classical humanities, communication studies, economics, English, French, geography, German, Greek, history, international studies, Latin, mass communication, modern languages, motion picture studies, music, organizational communication, philosophy, political science, religion, selected studies, social and industrial communication, social work, sociology, Spanish, theatre studies, and urban affairs.

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, design/technology, and directing/stage management.

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, music theory, composition, and music history and literature.

Interdisciplinary Study

The College of Liberal Arts offers interdisciplinary majors in international studies, selected studies, urban affairs, and social and industrial communication. 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 average. No more than 8 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.

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 either by satisfactorily completing course work or by taking an examination. For proficiency exams in French, German, Spanish, or Russian, consult the Department of Modern Languages. For proficiency exams in Greek or Latin, consult the Department of Classics. 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, Spanish, and Russian, 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 each in 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 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 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, English, French, geography, German, history, music, political science, religion, sociology, Women's Studies, and Spanish. 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. Students who qualify for admission to the M.B.A. program can then complete the degree in a fifth year of full-time study. (See page 65 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, and sociology. Honors programs usually involve intensive independent study under the direction of a faculty mentor over a period of two or three quarters. Departmental honors can also be earned independently through the University Honors Program. 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. A cooperative education advisor in the Career Services office can provide more details.

Teacher Certification

Students interested in combining a major and B.A. degree in the College of Liberal Arts with Ohio teacher certification must meet the admission requirements of the College of Liberal Arts and the College of Education and Human Services, and complete both the B.A. degree requirements and the bachelor's degree requirements of the College of Education and Human Services. Certification programs are available in art, English, and history. Certification in speech and theatre is available when combined with English as a second teaching field. Certification in French, German, Latin, and Spanish are available as second teaching fields. Students in certification programs must be advised by both a major advisor in the College of Liberal Arts and an advisor in the College of Education and Human Services. Before entering a certification program, students should schedule a conference with an education advisor to review program admission and degree requirements.

An alternative to the B.A. with certification is a Bachelor of Science in Education degree with a teaching field in one of the liberal arts disciplines. For more information, see the College of Education and Human Services section of this catalog on page 75.

Women's Studies

Women's Studies is an interdisciplinary program that reclaims and validates women's experiences and contributions. Women's Studies offers courses toward a minor and complements all majors. For more information about the program and specific requirements, please contact the program director in the Women's Center.
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.

Anthropology

See Sociology and Anthropology

Art and Art History

Professors Cantelope (Emeritus), Geibert, Macaulay
Associate Professors Caron (Chair), Fitch, Kiser, Koertin, Leach, McDowell, Must (Emeritus), Nathanson
Assistant Professor Vito

The Department of Art and Art History offers programs leading to the Bachelor of Arts and the Bachelor of Fine Arts degrees, with concentrations in 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.

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. Those who wish to become B.F.A. candidates must petition the faculty at the time of their review. 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.

Candidates for a degree in art may prepare for graduate study, careers in teaching, or the professional practice of art. Candidates for the B.A. or B.F.A. with teaching certification must complete the specific requirements outlined in the laws and regulations governing Ohio teachers’ education and certification.

Degree Requirements—Art

Bachelor of Fine Arts Degree

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental Requirements*</td>
<td>122</td>
</tr>
<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, photography</td>
<td>32</td>
</tr>
<tr>
<td>Four courses in drawing</td>
<td>16</td>
</tr>
<tr>
<td>Five additional courses in area of major concentration</td>
<td>20</td>
</tr>
<tr>
<td>Junior seminar</td>
<td>2</td>
</tr>
<tr>
<td>Departmental studio electives</td>
<td>16</td>
</tr>
<tr>
<td>Departmental or related electives</td>
<td>8</td>
</tr>
<tr>
<td>ART 209</td>
<td>4</td>
</tr>
<tr>
<td>Nondepartmental Electives</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>192</td>
</tr>
</tbody>
</table>

*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**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>68</td>
</tr>
<tr>
<td>ART 211, 212, 213 and one additional art history</td>
<td>16</td>
</tr>
<tr>
<td>course</td>
<td></td>
</tr>
<tr>
<td>Eight courses, two each from four of the</td>
<td></td>
</tr>
<tr>
<td>following studio areas: drawing, painting,</td>
<td></td>
</tr>
<tr>
<td>printmaking, sculpture, photography</td>
<td>32</td>
</tr>
<tr>
<td>Departmental electives</td>
<td>8</td>
</tr>
<tr>
<td>Departmental studio electives</td>
<td>12</td>
</tr>
<tr>
<td>Language and</td>
<td></td>
</tr>
<tr>
<td>Research Methods Requirement</td>
<td>24–32</td>
</tr>
<tr>
<td>Nondepartmental Electives</td>
<td>35–43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>192</td>
</tr>
</tbody>
</table>

### Degree Requirements—Art History

**Art History**

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.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>88</td>
</tr>
<tr>
<td>ART 211, 212, 213</td>
<td>12</td>
</tr>
<tr>
<td>One course each from six of the following</td>
<td></td>
</tr>
<tr>
<td>art history areas: American, ancient-classical,</td>
<td></td>
</tr>
<tr>
<td>medieval, museology, Renaissance, Baroque,</td>
<td></td>
</tr>
<tr>
<td>nineteenth century, twentieth century, non-Western,</td>
<td></td>
</tr>
<tr>
<td>or art theory and criticism</td>
<td>24</td>
</tr>
<tr>
<td>Three courses, one each from three of the</td>
<td></td>
</tr>
<tr>
<td>following studio areas: drawing, painting,</td>
<td></td>
</tr>
<tr>
<td>printmaking, sculpture, photography</td>
<td>32</td>
</tr>
<tr>
<td>Art history electives</td>
<td>8</td>
</tr>
<tr>
<td>Departmental electives</td>
<td>12</td>
</tr>
<tr>
<td>Language and</td>
<td></td>
</tr>
<tr>
<td>Research Methods Requirement</td>
<td>24–32</td>
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<tr>
<td>Nondepartmental Electives</td>
<td>35–43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>212</td>
</tr>
</tbody>
</table>

### 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

Associate Professors Gabbert (chair), C. King, W. King

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 on 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 certification requirements.

Degree Requirements—Classical Humanities

Bachelor of Arts Degree

<table>
<thead>
<tr>
<th>Category</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>57</td>
</tr>
<tr>
<td>College Research Methods Requirement</td>
<td>12</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Greek or Latin Language</td>
<td>24</td>
</tr>
<tr>
<td>Classical Humanities Electives</td>
<td>31</td>
</tr>
<tr>
<td>CLS 499</td>
<td>2</td>
</tr>
<tr>
<td>Electives and Related Courses</td>
<td>66</td>
</tr>
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<td><strong>Total</strong></td>
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</table>

Degree Requirements—Greek

Bachelor of Arts Degree

<table>
<thead>
<tr>
<th>Category</th>
<th>Hours</th>
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</tr>
<tr>
<td>College Research Methods Requirement</td>
<td>12</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Greek Language</td>
<td>36</td>
</tr>
<tr>
<td>Electives in Classical Humanities and Latin Language</td>
<td>19</td>
</tr>
<tr>
<td>CLS 499</td>
<td>2</td>
</tr>
<tr>
<td>Electives and Related Courses</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</table>

Degree Requirements—Latin

Bachelor of Arts Degree

<table>
<thead>
<tr>
<th>Category</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>57</td>
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<tr>
<td>College Research Methods Requirement</td>
<td>12</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Latin Language</td>
<td>36</td>
</tr>
<tr>
<td>Electives in Classical Humanities and Greek Language</td>
<td>19</td>
</tr>
<tr>
<td>CLS 499</td>
<td>2</td>
</tr>
<tr>
<td>Electives and Related Courses</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>192</strong></td>
</tr>
</tbody>
</table>

Classics Honors Program

Superior students may participate in the departmental honors program upon applying to the Department of Classics. They should have a grade point average 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, 8 of which must be at the 300 level or above.

Communication

Professors Byrum-Robinson, Pruett, Rickert, Sayer (chair), Shupe (Emeritus)
Associate Professors DeStephen, Eakins-Reed, Feizer (Emeritus), Hanks, Spicer
Assistant Professors John, Makay, Ruminski
Lecturers Baxter, Romanelli

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 public relations, training and development, or other organizational communication specialties. Study in mass communication is appropriate for students interested in journalism or media management and production. 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 intercollegiate forensics and debate, 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 11 hours of required courses, as well as a minimum of 44 additional hours in communication. All communication majors are encouraged to participate in communication activities outside the university.

Communication majors may qualify for state certification at the secondary level by taking the required professional courses in the College of Education and Human Services.

To be admitted as majors, students must have at least a 2.5 grade point average.

General Education Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required courses:</td>
<td>44</td>
</tr>
<tr>
<td>COM 101, 230, 400</td>
<td>11</td>
</tr>
<tr>
<td>Additional electives in major</td>
<td>44</td>
</tr>
<tr>
<td>Foreign Language and Research Methods Requirement</td>
<td>24–32</td>
</tr>
<tr>
<td>Electives</td>
<td>41–48</td>
</tr>
<tr>
<td>Total</td>
<td>192</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Core Requirements:</td>
<td>44</td>
</tr>
<tr>
<td>COM 102, 141, 152, 333, 335, 401, 449</td>
<td>25</td>
</tr>
<tr>
<td>Electives selected from other courses in the department</td>
<td>19</td>
</tr>
</tbody>
</table>
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 44

Major Core Requirements:
2 hours of COM 130 or 330 (or LA 203/205/303/305/403/405), 152, 256, 358, 411, 462 21

Major Core Requirements in Specialization Area
 Broadcasting
COM 253, 360, 460, 464 15
 Print Journalism
COM 364, 366, 454, 458 16
 Public Relations
COM 345, 346, 347, 365 16
 Electives selected from other courses in the department 7–8

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 44

Major Core Requirements
COM 102, 141, 152, 446, 447, 448 21

Major Electives/Choose five from the following: COM 343, 345, 346, 347, 432, 441, 443, 445, 449, 451, 453, 455, 457 20
Electives selected from other courses in the department 3

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 grade point average 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 grade point average, and 3.5 grade point average 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.

Requirements 36

Required Courses
COM 101, 200, 400 11

Additional Courses in Communication
At least 16 hours must be at the 300 level or above 25

Dance

See Theatre Arts

Economics

Professors Blair, Fichtenbaum, Kumar, Premus, Renas, Sav (chair), Swaney, Treacy
Associate Professors Dung, Olson, Traynor
Assistant Professors Hopkins, Osborne
Instructors Staley, Sylvester (director, M.S. program)
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, law, 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, students are
required to complete 12 hours of writing-
intensive courses.
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 51 credit hours in the Department of
Economics. Basic courses are supplemented by
economics electives.

Degree Requirements—Economics
Bachelor of Arts Degree

General Education Requirements 63

Required substitutions:
EC 201, 202, 203

Departmental Requirements 42
EC 201, 202, 203 (counted above)
EC 301, 315, 317, 319 15
Economics Electives 27

Related Requirements 28–29
CS 205 4
MTH 129, 228 8
MS 201, 202, 203 (or STT 264, 265) 8–9

Two upper-division courses in one of the
following areas: anthropology, geography,
history, political science, psychology,
sociology, or urban affairs 8

Foreign Language and
Research Methods Requirement 16–24

Electives 34–43

Total (minimum requirement) 192

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 four concentrations
(specified below), which have been designed to
meet the needs of students with a general interest
in literature and of 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.
Finally, 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.

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

| General Education Requirements | 57 |
| English Major Requirements     | 56 |
| ENG 250, 251                    | 8  |
| ENG 351 or 352, 353 or 354, 355 or 356 or 357; and one more from the ENG 350 through 359 group | 16 |
| Four of the following courses, each from a different category: ENG 410, 420, 430, 440, 450, 460, 470, 490 | 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 | 24–32 |
| Electives                       | 47–55 |
| **Total**                       | 192 |

### Concentration in English with an Emphasis on Creative Writing

| General Education Requirements | 57 |
| English Core Requirements      | 32 |
| ENG 250, 251                    | 8  |
| ENG 351, 352, 353, 354 (one course); ENG 355, 356, 357 (one course); and one other course from the ENG 350 through 359 group | 12 |
| Two of the following courses, each from a different category: ENG 410, 420, 430, 440, 450, 460, 470, 490 | 8  |
| One course in linguistics (ENG 478 or 479) | 4  |
| Creative Writing Requirement   | 24 |
| Two of the following: ENG 302, 303, 304 | 8  |
| Two or three courses from the following: ENG 392, 393 (each course may be taken once or twice) | 8–12 |
| One or two courses from the following: ENG 492, 493 (each course may be taken once or twice) | 4–8 |
| Foreign Language and Research Methods Requirement | 24–32 |
| Electives                       | 47–55 |
| **Total**                       | 192 |

### Concentration in English with an Emphasis on Professional Writing

| General Education Requirements | 57 |
| English Core Requirements      | 32 |
| ENG 250, 251                    | 8  |
| ENG 351, 352, 353, 354 (one course); ENG 355, 356, 357 (one course); and one other course from the ENG 350 through 359 group | 12 |
| Two of the following courses, each from a different category: ENG 410, 420, 430, 440, 450, 460, 470, 490 | 8  |
| One course in linguistics (ENG 478 or 479) | 4  |
| Professional Writing Requirements | 24 |
| Any two of the following: ENG 330, 333, 343, 344 | 7–8 |
| Three or four courses from the following: ENG 347, 364, 400, 402, 405, 454, 458, 495 | 12 |
| One more course from among those listed immediately above | 4  |
| Foreign Language and Research Methods Requirement | 24–32 |
| Electives                       | 47–55 |
| **Total**                       | 192 |

### Concentration in English with an Emphasis on TESOL

| General Education Requirements | 57 |
| English Core Requirements      | 32 |
| ENG 250, 251                    | 8  |
| ENG 351, 352, 353, 354 (one course); ENG 355, 356, 357 (one course); and one other course from the ENG 350 through 359 group | 12 |
| Two of the following courses, each from a different category: ENG 410, 420, 430, 440, 450, 460, 470, 490 | 8  |
| One course in linguistics (ENG 478 or 479) | 4  |
| TESOL Requirements             | 24 |
| ENG 481, 482, 483, 484, 485     | 20 |
| ENG 478 or 479 (whichever was not taken as part of core requirements above) | 4  |
| Related Requirement             | 4  |
| ED 458 or ED 460                | 4  |
| Foreign Language and Research Methods Requirement | 24–32 |
| Electives                       | 43–51 |
| **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.

Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 250, 251</td>
<td>8</td>
</tr>
<tr>
<td>ENG 351, 352, 353, or 354 (one course); ENG 355, 356, or 357 (one course); and one other course from the ENG 350 through 359 group</td>
<td>12</td>
</tr>
<tr>
<td>Two of the following courses: ENG 410, 420, 430, 440, 450, 460, 470, 490</td>
<td>8</td>
</tr>
<tr>
<td>Two additional 300- and/or 400-level courses</td>
<td>8</td>
</tr>
</tbody>
</table>

**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 TESOL**

The English department offers a certificate program in Teaching English to Speakers of Other Languages in cooperation with the College of Education and Human Services. Five courses and a practicum provide the requisite knowledge of linguistics and TESOL theory and methods. Interested students should contact the departmental advisor or the director of TESOL/ESL for further information.

**Validation in TESOL K–12**

A validation in TESOL K–12, in conjunction with an Ohio teaching certificate, entitles the recipient to teach English as a second language in the Ohio public schools. Undergraduates may take courses for the validation while they are completing their courses for certification. Students who have completed requirements for certification may add the validation on at a later time.

Validation in TESOL K–12

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 478, 481, 482, 483, 484</td>
<td>20</td>
</tr>
<tr>
<td>ED 420</td>
<td>4</td>
</tr>
<tr>
<td>ED 458</td>
<td>4</td>
</tr>
<tr>
<td>One of the following courses: CST 230, ENG 490, ATH 240</td>
<td>3–4</td>
</tr>
</tbody>
</table>

**English with Certification**

Candidates for certification in high school and junior high school English may earn a Bachelor of Arts degree by completing the language or research methods requirement and by distributing their English courses as outlined below in the program of study for English with certification. In addition, B.A. with certification students must take the professional education courses prescribed by the College of Education and Human Services. Early in their program, all English majors seeking certification should review their programs with a teacher certification advisor in the College of Education and Human Services to ensure that they fulfill the necessary requirements for certification.

**Degree Requirements—English with Certification**

**Bachelor of Arts Degree**

General Education Requirements: 57

English Major Requirements: 55–56

ENG 203, 204, or 490, or CST 230: 3–4
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 grade point average in history for graduation.

### Degree Requirements—History

**Bachelor of Arts Degree**

**General Education Requirements**

- Departmental Requirements* 50
- United States History:
  - HST 211, 212 (6 hours)
  - Upper division courses (16 hours)
- Non-American history (upper division):
  - Two courses in European history (8 hours)
  - Two courses in Third World history (8 hours)
  - Three courses in area of student's choice (12 hours)
- Related Requirements† 24
- Foreign Language and Research Methods Requirement 24–32

**Electives** 0–4

**Total (minimum requirement)** 192

*Field and clinical experiences required.

### 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; HST 400 (with a grade of A or B); a 3.5 grade point average in history and a 3.0 grade point average in overall course work; and a Bachelor of Arts degree in

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**Geography**

See Urban Affairs and Geography

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**History**

*Professors* Berry (Emeritus), Dorn, Haas (chair), Spetter

*Associate Professors* Arbagi, Carlson (WSU-Lake Campus), Green, Melton, Yuan

*Assistant Professors* Amoroso, Carrafello, Garner, Lockhart, Sherman, Sumser, Swann (Emeritus), Vice, Wachtell, Workman

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English Language and Literatures

History
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.

Departmental Requirements

American history: HST 211, 212
Three upper division courses, one each in the following:
- American history
- European history
- Third World history

Twelve hours of upper division course work in an area of the student's choice to be selected in consultation with an advisor.

International Studies

Director Schlagheck

The international studies major offers students the opportunity to study international politics, 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; and work in a specialized track.

The specialized tracks in the international studies major provide five options: international diplomacy; area studies; comparative cultures; international economics; and selected studies. 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 selected studies track allows students to design a more specialized major, subject to approval by the International Studies Committee.

Study abroad opportunities in Australia, Chile, Costa Rica, England, France, Germany, Italy, Japan, Spain, and Thailand are available through the University Studies Abroad Consortium, of which Wright State is a member. Sister universities in Brazil, China, and Japan also offer cultural exchange programs in the summer. Study abroad and cultural exchange can be arranged through the International Student Exchange Program.

Although this is not a requirement for an international studies degree, students will find that studying abroad in a foreign language 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

General Education Requirements 57

Foreign Language and Research Methods Requirements 44

Twelve hours minimum at the 300 level, or demonstrated proficiency at the level of 312 or 322

Major Core Requirements 18

Art History, 1850– Comparative Economics World Geography International Politics World Religions

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
- Selected Studies

Total (core and specialized track) 46-76
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.

Modern Languages

Professors Garrison, Horn, Matual
Associate Professors Hye, Peterman, Whissen (chair)
Assistant Professors Cannon (Emerita), O'Brien
Lecturer Douglas

The contributions of foreign language study to international understanding and world peace, and the value of language literacy to a liberal education, have long been recognized. The foreign language program combines oral and written proficiency with knowledge of the culture and literary heritage of societies other than our own. The department provides excellent preparation for entrance into many crucial and challenging fields, including the diplomatic corps, foreign trade, government, business, industry, and teaching.

Students should be aware that knowledge of a foreign language alone is often insufficient for many careers. Therefore, the goal of the language major should be to combine knowledge of a language with another discipline or skill. While a second foreign language is not required, the department strongly recommends it.

The Department of Modern Languages offers majors leading to the Bachelor of Arts degree in French, German, Spanish, and Modern Languages. Students who seek teacher certification in these languages may work toward the Bachelor of Science in Education degree available through the College of Education and Human Services; or they may earn a Bachelor of Arts degree with certification, fulfilling both the requirements of the language major and the professional education requirements of the College of Education and Human Services.

In addition to major and minor programs in French, German, and Spanish, the department offers basic courses in Chinese, Danish, Italian, Japanese, Portuguese, Russian, comparative literature, foreign cultures, literature in translation, and linguistics.

Placement
Students who have studied a foreign language in high school for two or more years and received an average grade of B or better may not take 100-level foreign language courses for credit. Those with fewer than two years or a grade of C or lower are advised to enroll in FR or GER or RUS or SPN 101, 102, 103 for credit.

Students with only two years of high school foreign language and an average grade of B or better are strongly encouraged to enroll in FR or GER or SPN 150 (Grammar Review). Those with three or four years of high school foreign language may place themselves in FR or GER or SPN 201, 311, or 321.

Students who received a C or lower in their foreign language 103 class may take the 150 class for credit before proceeding to the 201 level.

Proficiency
Proficiency credit may be earned in two areas: 300-level conversation courses (4 credit hours) and 300-level composition courses (8 credit hours).

Degree Requirements—French

Bachelor of Arts Degree

General Education Requirements 57

College Research Methods 12

Departmental Requirements 58
FR 201, 202, 203; 311, 312 20
FR 321, 322, 332, 331, 332 20
FR 361 2
French Electives (300- and 400-level courses) 16
Related Requirements 24
CPL 310 4
LI 371 4
ML 301, 302, 303, 304, 305, 306 8
(Student should choose the culture course related to their field plus at least one other culture course.)
ML 311, 312, 313, 314, 315, 316 8
(Student should choose at least two literature courses in translation outside their own field.)
Electives 41

Total 192
### Degree Requirements—German
#### Bachelor of Arts Degree

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Research Methods</td>
<td>12</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>56</td>
</tr>
</tbody>
</table>

**GER 201, 202, 203; 311, 312**

**GER 321, 322, 323, 331, 332**

German Electives (300- and 400-level courses) **16**

**Related Requirements** **24**

<table>
<thead>
<tr>
<th>CPL 310</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI 371</td>
<td>4</td>
</tr>
<tr>
<td>ML 301, 302, 303, 304, 305, 306</td>
<td>8</td>
</tr>
</tbody>
</table>

(Students should choose the culture course related to their field plus at least one other culture course.)

| ML 311, 312, 313, 314, 315, 316| 8  |

(Students should choose at least two literature courses in translation outside their own field.)

**Electives** **43**

**Total** **192**

### Degree Requirements—Spanish
#### Bachelor of Arts Degree

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Research Methods</td>
<td>12</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>58</td>
</tr>
</tbody>
</table>

**SPN 201, 202, 203; 311, 312**

**SPN 321, 322, 323, 331, 332**

**SPN 333, 334, 361**

Spanish electives (400-level courses) **8**

**Related Requirements** **24**

<table>
<thead>
<tr>
<th>CPL 310</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI 371</td>
<td>4</td>
</tr>
<tr>
<td>ML 301, 302, 303, 304, 305, 306</td>
<td>8</td>
</tr>
</tbody>
</table>

(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| 8  |

(Students should choose at least two literature courses in translation outside their own field.)

**Electives** **27**

**Total** **192**

### Cultural Proficiency Requirement

Each student wishing to graduate with a major in the Department of Modern Languages will be required to pass a test based on the department’s cultural handbook. This booklet of basic facts about French, German, Russian, 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 given quarter. The minimum passing grade is 95 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 and 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:

- SPN 201, 202, 203: 12
- SPN 311, 312: 8
- SPN 321, 322, 331: 12

Total: 32

Motion Pictures
See Theatre Arts

Music

Professors Bland, Whiston (chair)
Associate Professors Larkowski, Laws
Assistant Professors Dahlman, Leung, Nelson, Paul, Sievers, Tipps

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, music theory, music history and literature, and music composition; the Bachelor of Arts degree is offered with a major in music. A Master of Music degree with a major in music education is 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. Fees for music majors or minors in applied music are $120 for one half-hour lesson per week or $240 for a one-hour lesson per week payable quarterly. Applied music is also available to nonmajors on a limited basis and subject to instructor availability. The fee for this instruction is $120 for one half-hour lesson per week. A rental fee of $15 per quarter is charged for use of university-owned instruments in class instruction.

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 the performing groups. Some groups require individual auditions; prospective members should consult the various conductors to arrange auditions. The following instrumental groups are available: Orchestra, Chamber Orchestra, Symphony Band, Concert Band, Varsity Band, Clarinet Choir, Brass Choir, and Jazz Band. Choral groups include the University Chorus, University Chorale, Madrigal Singers, Choral Union, Vocal Jazz Ensemble, and Gospel Choir. 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, electric bass, euphonium or baritone horn, flute, horn, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin.
Music

Music

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1. LIBERAL ARTS

 violin, cello, 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. Choice of ensemble must be approved by the 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 grade point average of 3.0 in the major performing medium and a 2.0 in all other required music courses.

General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required substitutions:</td>
<td></td>
</tr>
<tr>
<td>MUS 121, 122</td>
<td></td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>33</td>
</tr>
<tr>
<td>MUS 101, 102, 103, 201, 202, 203, 151, 152, 153, 251, 252, 253, 311, 312, 313</td>
<td></td>
</tr>
<tr>
<td>Performance Area Requirements</td>
<td>102–120</td>
</tr>
</tbody>
</table>

Voice

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 441, 442, 455, 456, 457, 420, 335, 261, 262, 111, 112, 113, 155, 156, 157, 255, 256, 257</td>
<td>31</td>
</tr>
<tr>
<td>Italian</td>
<td>12</td>
</tr>
<tr>
<td>French or German</td>
<td>8</td>
</tr>
<tr>
<td>MUA Applied Voice</td>
<td>42</td>
</tr>
<tr>
<td>MUA Applied Piano</td>
<td>3</td>
</tr>
<tr>
<td>Choral Ensembles</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Piano

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUS 401, 402, 403, 451, 452, 453, 301 or 302, 335, 336, 316, 317, 105 (three), 205 (seven)</td>
<td>40</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>12</td>
</tr>
<tr>
<td>MUA Applied Piano</td>
<td>42</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Organ

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MUS 401, 441, 442, 301, 335, 336, 337, 205, 257</td>
<td>18</td>
</tr>
<tr>
<td>Religion Elective</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>12</td>
</tr>
<tr>
<td>MUA Applied Organ</td>
<td>42</td>
</tr>
<tr>
<td>MUA Applied Voice</td>
<td>6</td>
</tr>
<tr>
<td>Choral Ensembles</td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
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</table>

Strings

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442, 301, 335, 336, 338, 205, 215, 216, 217, 155, 156, 157, 255, 256, 257, 105</td>
<td>36</td>
</tr>
<tr>
<td>MUA Applied Strings</td>
<td>42</td>
</tr>
<tr>
<td>Ensembles (135)</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>18</td>
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</table>

Woodwinds

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442, 227, 228, 229, 301, 335, 336, 338, 135 or 168, 205, 155, 156, 157, 255, 256, 257</td>
<td>37</td>
</tr>
<tr>
<td>MUA Applied Woodwinds</td>
<td>42</td>
</tr>
<tr>
<td>Ensembles</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>17</td>
</tr>
</tbody>
</table>

Brass

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442, 335, 336, 338, 301, 205 or 235, 155, 255, 168</td>
<td>49</td>
</tr>
<tr>
<td>MUA Applied Brass</td>
<td>42</td>
</tr>
<tr>
<td>Ensembles</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
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</tbody>
</table>

Percussion

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442, 335, 336, 338, 205/235 (five), 155, 156, 157, 255, 256, 257</td>
<td>29</td>
</tr>
<tr>
<td>MUA Applied Percussion</td>
<td>54</td>
</tr>
<tr>
<td>Ensembles</td>
<td>27</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Classical Guitar

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442, 335, 336, 338, 301, 205, 215, 216, 217, 155, 156, 157, 255, 256, 257</td>
<td>39</td>
</tr>
<tr>
<td>Ensemble</td>
<td>3</td>
</tr>
<tr>
<td>MUA Applied Guitar</td>
<td>42</td>
</tr>
<tr>
<td>Electives</td>
<td>21</td>
</tr>
</tbody>
</table>

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, which include the requirements of the Ohio Board of Education, students receive the Ohio Special Certificate for teaching music. To be eligible for the Bachelor of Music degree, music education majors must have a minimum cumulative grade point average of 3.0 in required music education courses and a 2.5 grade point average in all other required music courses. An overall minimum cumulative grade point average 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; d) minimum cumulative grade point average of 2.5 in total coursework 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. Choice of ensemble must be approved by the 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.

General Education Requirements 60

Required substitutions:
MUS 121, 122

Departmental Requirements 33

MUS 101, 102, 103; 201, 202, 203; 151, 152, 153; 251, 252, 253; 311, 312, 313

Major Requirements 43 -45

MUS 155, 156, 157; 255, 256, 257; ED 214, 216, 218, 220, 221, 223; 464, 432, 323; 419, 440; COM 101

One of the following programs: 69 -87

**Band or Orchestral Instrument Concentration** 72

MUA applied music concentration 22

MUS 105 (2 hours): 145, 205, 215, 216, 217; 224, 225, 226, 227, 228, 229, 231; 223 or 329, 323, 324, 328, 335, 336, 338, 421 36

Ensembles 11

Music electives 3

**Piano or Classical Guitar Concentration with Band or Orchestral Instrument Secondary** 86

MUA applied music concentration 22

MUA applied music secondary (audition required) 11

MUS 100 (if guitar): 145, 205, 215, 216, 217; 224, 225, 226, 227, 228, 229, 231; 257 (if piano): 223 or 329, 323, 324, 328, 335, 336, 338, 421 39

Ensembles 11

Music electives 3

**Voice Concentration with Piano Secondary or Piano or Organ Concentration with Voice Secondary** 69 -75

MUA applied music concentration 22

MUA applied music secondary (if piano is concentration) 11

MUA applied music secondary (if voice is concentration) 5

MUS 111, 112, 113; 215, 224 (special section); 227, 231, 257 (if piano); 261, 262, 328, 329, 322; 335, 336, 337, 421 27

Music electives 3

Ensembles 11

ED 302, 321 4

**Voice Concentration with Piano and Classical Guitar Secondary or Piano or Organ Concentration with Voice and Classical Guitar Secondary** 84 -87

For curricular requirements, see the previous listing with the addition of the following:
Secondary (classical guitar) 11

Music Theory, Music Composition, and Music History and Literature

The majors in music theory, composition, and history and literature are not terminal degrees, and students pursuing these curricula should expect to continue at the graduate level. Therefore, students considering any of these programs should consult with the appropriate faculty advisor before entering.

Students planning to pursue one of these majors will be placed in the "Music: Unspecified" category until the following requirements have been met: for music theory or composition, a minimum cumulative grade point average of 3.0 in MUS 101, 102, 103 and MUS 151, 152, 153, and completion of MUS 122; for music history and literature, a minimum cumulative grade point average of 3.0 in MUS 121 and 122, and completion of MUS 103 and 153.

Students majoring in music theory, composition, or history and literature must complete level III in the applied music concentration and pass all keyboard proficiency requirements. Students must maintain a minimum cumulative grade point average of 3.0 in required major courses, and 2.0 in other required music courses. Senior students are required to complete a senior project. For the majors in music theory and music history and literature, the project may consist of an extensive written research paper or a scholarly lecture or lecture/recital. For the major in composition, students are required to present a 30-minute recital of original compositions.

Degree Requirements—Music Theory

**Bachelor of Music Degree**

General Education Requirements 60

Required substitutions:
MUS 121, 122

Departmental Requirements 33

MUS 101, 102, 103; 201, 202, 203; 151, 152, 153; 251, 252, 253; 311, 312, 313
Degree Requirements—Music History and Literature

Bachelor of Music Degree

General Education Requirements 60

Required substitutions:
MUS 121, 122 6

Departmental Requirements 33

MUS 101, 102, 103; 201, 202, 203; 151, 152, 153; 251, 252, 253; 311, 312, 313 73

Major Requirements 15

MUS 301 or 302; 314; 401, 402, 403 12
Music literature 12
Ensemble 12
French, German, or Latin (202 level) 20
MUS 481 (senior project) 6
Electives 8

One of the following performance concentrations 36

Keyboard
MUA applied music 18
MUS 257 1
Music electives 17

Non-keyboard
MUA applied music 18
MUS 155, 156, 157; 255, 256, 257 6
Music electives (vocal concentration must take MUS 261, 262) 12

Degree Requirements—Music Composition

Bachelor of Music Degree

General Education Requirements 60

Required substitutions:
MUS 121, 122 6

Departmental Requirements 56

MUS 101, 102, 103; 201, 202, 203; 151, 152, 153; 251, 252, 253; 311, 312, 313 56

Major Requirements 12

MUS 301, 302; 335; 371, 372, 373, 381, 382; 401, 402, 403; 421, 422, 424, 471, 472, 473 12

One of the following performance concentrations: 37–42

Keyboard
MUA applied music 18
MUS 257 1
Electives 18

Non-keyboard
MUA applied music 18
MUS 155, 156, 157; 255, 256, 257 6
Electives 18

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.

General Education 60

Required substitutions:
MUS 121, 122 6

Departmental Requirements 68

MUS 101, 102, 103; 201, 202, 203; 151, 152, 153; 251, 252, 253; 311, 312, 313; 314; 155, 156, 157 (nonkeyboard concentration only; keyboard concentration substitute music electives)
MUA applied music concentration 12
Music electives 17

Related Courses 12

Nine hours in one of these fields: anthropology, art, classics, economics, history, literature, mathematics, philosophy, religion, or sociology

Foreign Language and Research Methods Requirement 24–32

Electives (nonmusic) 20–28

Total 192
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 grade point average and a 3.5 grade point average in music. For additional information, students should contact the department chair.

Minor in Music

Thirty-nine credit hours of study are required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Music Theory</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>12</td>
</tr>
<tr>
<td>MUS 101, 102, 103, 151, 152, 153</td>
<td></td>
</tr>
<tr>
<td><strong>Music History and Literature</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>15</td>
</tr>
<tr>
<td>MUS 121; 122, 311, 312, 313</td>
<td></td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>6 - 12</td>
</tr>
<tr>
<td>MUA applied music&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Ensemble&lt;sup&gt;3&lt;/sup&gt;</td>
<td>6</td>
</tr>
<tr>
<td>Completion of the minor also requires a minimum grade point average of 2.25 in music courses.</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup>Concurrent registration in Theory of Music and Sight-singing and Dictation is required. MUS 103, 153; and 122 are prerequisites for MUS 311.

<sup>2</sup>Audition required; six quarters of study, 1 or 2 credits per quarter.

<sup>3</sup>Minimum of 3 credits in University Chorus, University Chorale, Band, Orchestra, or Chamber Orchestra.

Philosophy

Professor Taylor
Associate Professors Hough (chair), Irvine
Assistant Professor Beelick

The philosophy major is designed to encourage clear and logical thinking about problems that philosophers attempt to solve. It develops students' ability for critical evaluation through analysis and appreciation of such attempts, 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.

Since 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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>57</td>
</tr>
<tr>
<td>Departmental Requirements</td>
<td>52</td>
</tr>
<tr>
<td>Electives and Related Courses</td>
<td>51 - 59</td>
</tr>
<tr>
<td>Language and Research Methods Requirement</td>
<td>24 - 32</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>192</td>
</tr>
</tbody>
</table>

Political Science

Professors Funderburk (chair), Jacob, Moore, Smith (Emeritus), Thobaben (Emeritus), Walker
Associate Professors Adams, Fitzgerald, Hutzel, Schlagebeck
Assistant Professors Coughlan, Green, Sirkin

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, 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 four 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;
2. public law, including constitutional law, criminal justice, civil liberties, and environmental law;
3. international relations and comparative politics, including American and Soviet-Post-Soviet foreign policy; Western European and Latin American governments; the Middle East, East European, Russian, and Asian governments; African politics; national security policy; terrorism; international political economy; and developing political systems;
4. political philosophy, political ideologies, the history of political thought, political theory, 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 two nationally recognized, award-winning teams attending the annual National Model United Nations meeting in New York and the annual American Mock Trial competition.

Degree Requirements — Political Science

Bachelor of Arts Degree

General Education Requirements 57

Foreign Language and Research Methods Requirement 24–32

Departmental Requirements 60

Core Requirements (two courses) 8
Prerequisite: PLS 200
PLS 212, 222

Area Requirements 20
Prerequisite: Core Requirements
1. American Government (two courses)
2. International and Comparative Politics (two courses)
3. Political Philosophy, Theory, and Analysis (one course)

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 4 hours at the 400 level

Related Major Requirements from Outside the Department 21–23
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 201, 202, and 203 9
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 24–30

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:

1. Core Requirements (8 hours) Prerequisite: Political Life—PLS 200
   PLS 212, 222
2. Field Requirements (12 hours)
   Prerequisite: Core Requirements
   Area A: American Government
   (one course, 4 hours)
   Area B: International and Comparative Politics (one course, 4 hours)
   Area C: Political Philosophy, Theory, and Analysis (one course, 4 hours)
3. Advanced Political Science Electives:
   Twelve hours distributed among 300- and 400-level courses chosen in consultation with a departmental advisor

Departmental Honors

Effective September 1, 1986, majors in political science may earn departmental honors by completing the following requirements:

1. Compiling a minimum grade point average of 3.4 on all political science course work and in overall course work
2. Attaining senior standing
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)
4. Completing the annual senior honors research seminar with a grade of A or B

By completing these requirements and by qualifying to participate in the university honors program, majors may earn the designation “University Honors Scholar” upon graduation. Interested students should see the director of 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, Friedland (Sanders Scholar), Reece
Associate Professors Griffin (chair), Neve, Stoez (Emeritus)
Assistant Professor Chamberlain

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, its literature and art, and its 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 497 near the end of their studies. In addition, a religion major requires one course from each of the following six areas: African-American religion, 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 or, with departmental approval, fulfill a research methods requirement of 21 hours.

The department also provides a dual major (11 courses) and a minor (eight 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 work, counseling, law, or 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

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 48–53

Fourteen courses to be chosen from:
REL 205, 206, 207 9
REL 497 4

Six additional courses, one from each area:
- African-American Religion
- American Religion
- Biblical Studies
- Ethics or Philosophy of Religion
- Eastern Religions
- Western Religions 23–24

Religion electives 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 22–35

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 average 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:

Requirements
REL 205, 206, 207 9
Five additional courses in religion* 17–20

Total 26–29

*At least 12 hours must be at the 300 level or above.

Selected Studies

Program Committee Coordinator William E. Rickert

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; 8 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

General Education Requirements 57

Core Courses 48

Senior Project (LA 490) 8–16

Foreign Language and Research Methods Requirement 24–32

Electives 39–55

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

General Education Requirements 57
Core Courses 48
Senior Project (L.A 490) 8 – 16
Electives 71 – 79
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

General Education Requirements 57
Departmental Requirements 72

Required courses:
COM 101, 102, 141, 446, and three of the following: COM 441, 443, 445, 447; SOC 303, 306, and two of the following: SOC 350, 440, 441

Major electives chosen from:
ATH 240, COM 333, 343, 345, 347, 401, 429, 449, 451, 453, 455, 457, 489; SOC 201, 340, 341, 348, 380, 406, 433, 442, 444, 481; or other approved courses 31

Foreign Language and Research Methods Requirement 24 – 32
Electives 31 – 39
Total 192

Social Work

Associate Professors Bognar, Curry-Jackson (chair), Engle
Assistant Professors Allen, Brun

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 services to the aged.

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 and 271 with a grade of “C” or higher, with an overall grade point average of 2.25 or higher; related social science courses; human biology; and a writing portion of the Pre-Professional Skills Test.

Applications are accepted two times per year: March 1 (to begin the major fall quarter) and November 1 (to begin the major spring quarter). 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 including SW 491 or the following...
accepted inferential statistics courses: STT 265, MS 202, or PL.S 211.

**Degree Requirements—Social Work**

**Bachelor of Arts Degree**

General Education Requirements 57

Specific Courses:
- Area Three — The Non-Western World:
  - CST 240 — Comparative Non-Western Cultures
- Area Four — Understanding the Contemporary World:
  - BIO 105, 106, 107

Departmental Requirements 56
- SW 270, 271, 375, 380, 470, 481, 482, 483, 484, 490, 491; SW 487 (field practicum)

Related Requirements 7
- COM 102
- PSY 341

Foreign Language and Research Methods Requirement 24–32

Electives 40–48

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 grade point average 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 UIH 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 consequences of the aging process (physical, social, and psychological) and the needs associated with the aging process throughout the life span
- Knowledge about current social and health policies, as well as programs developed to meet the increasing needs of older people

- Skills to work as a team member in an interdisciplinary setting designed to help older people
- Sensitivity about the values necessary to work with older people

**Sociology and Anthropology**

**Professors** Ballantine, Cargan (Emeritus), Cross (Emeritus), Islam, Melko, Savelis, Siegal, Welty

**Associate Professors** Bellisari, Koebner, Orenstein (chair), Riordan, Shipelak

**Assistant Professors** Durr, Murray, Son, Steinberg (WSU - Lake Campus)

**Instructor** Cohen

**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**

General Education Requirements 57

Departmental Requirements 59
- SOC 201, 204, 301, 303, 306, 406, 442
- Any two of the following:
  - SOC 320, 340, 345, 360, 380
  - 300- to 400-level SOC electives (minimum)
- Other SOC electives 6–15

Related Electives 12

Twelve hours in any single approved discipline at the 300–400 level.
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 grade point average of 3.0 and an average of 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, archeology, 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.

Archeology 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

General Education Requirements 57

Departmental Requirements 53

ATH 250, 241, 242, 448 13
Cultural electives 16
Archaeology electives 12
Physical electives 4
Open elective 8

Within the archaeology electives, students must choose at least one methods/theory course and one area course. ATH 369, Field School in Archeology, may count for no more than 6 hours toward major requirements.

Within the cultural electives, students must choose at least one of the following:
ATH 340, 346, 349, 450

Related Requirements 24

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 26–34

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 grade point average 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 29 credit hours. This includes 12 hours in three introductory courses (ATH 250, 241, 242) 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).

Requirements for the Anthropology Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATH 250, 241, 242</td>
<td>9</td>
</tr>
<tr>
<td>Two courses from cultural anthropology:</td>
<td>8</td>
</tr>
<tr>
<td>One course from: ATH 340, 346, 349, 450</td>
<td>2</td>
</tr>
<tr>
<td>One course from: ATH 341, 343, 344, 399, 446, 447</td>
<td>2</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>Total</td>
<td>29</td>
</tr>
</tbody>
</table>

Students are expected to maintain a 2.0 overall grade point average.

## Theatre Arts

**Professors** Blair, Derry, Litherington

**Associate Professors** Johnson, Klein, Lafferty, McDowell (chair), Reichert, Rodriguez, Walker

**Assistant Professors** Crews, Cromer, DalVera, David, Knauer, Mcclellan, Mozi, White

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 grade point average 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 and jazz-theatre dance. 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 grade point average in all dance courses, and a 2.0 grade point average overall. Dance faculty conduct formal evaluations 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 perform as members of Dayton Ballet II or Dayton Contemporary II. These dancers are awarded scholarships from the Theatre Arts Department.

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 grade point average of 2.0 to be eligible for graduation.
Degree Requirements—Dance

Bachelor of Fine Arts Degree

General Education Requirements 57

Required substitutions:

TH 214

Departmental Requirements 102

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 (6 hours), 401, 402, 403, 412, 413, 421, 422, 423, 491, 492, 493

Related Requirements 26

TH 147, 148, 149, 222
MUS 141, 142, 143, (3 hours)
MUS 114, 117, 118, 214

Electives 7

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 Arts degree in theatre with a concentration in motion picture history, theory, and criticism, and the Bachelor of Fine Arts degree in theatre with a concentration in motion picture production.

Students are admitted to the motion picture production Bachelor of Fine Arts program after completing 24 credit hours, achieving an overall grade point average of 2.25, and completing TH 131 and TH 180 with grades of B or above.

Before students begin the junior or senior year of the production sequence, they must have a 2.5 grade point average in all production classes, a 2.5 grade point average in all film history/theory classes, and a 2.25 overall grade point average. Students must also have completed six film history/theory courses, not including TH 131, 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 be trained, disciplined, and show promise of benefiting from continued training. 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. Students must take eight theory classes and 125 credit hours before they can register for the senior film courses. All production incompletes must be finished before students can sign up for further production courses. Any student whose overall grade point average falls below 2.25 will be suspended from production classes and the use of facilities until the grade point average is raised. The faculty reserves the right to totally suspend from the program any student who does not fulfill these continuing requirements. Students may be reinstated if they subsequently fulfill the requirements.

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 grade point average 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 grade point average of 3.5 in their major and an overall grade point average 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. Since film is a highly eclectic medium of expression, the department designs a coordinated program of electives for each student.

General Education Requirements 57

Required substitutions:

ART 214 or TH 214 for art requirements

Departmental Requirements 61

TH 131, 180, 231, 232, 233, 334

Additional courses in motion picture history, theory, and criticism to be chosen from:

TH 331, 332, 333, 435

Additional production courses to be chosen from: TH 281, 282, 283, 381, 382, 383, 384, 399 — 9

Related Requirements 11

ART 207
MUS 214 or 121

One of the following:

EDT 455, COM 152, COM 251; COM 399 — video or appropriate substitute

Language and Research Methods Requirement 28

French or German recommended; must complete through 203
Degree Requirements—Acting

Bachelor of Fine Arts Degree

The professional acting program is an intensive, four-year progression of studies in acting, voice, movement, dance, and singing. 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. 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. All students in the program must earn a grade of C or better in an acting sequence to continue in the program. A 2.0 overall grade point average is required for continued good standing.

General Education Requirements 57

Required option:

TI 214

Departmental Requirements 97.5


Related Requirements 21

MUS 141, 142, 143

TH 100 (9 hours)

DAN 111, 112, 113

Electives 16.5

Total 192

Degree Requirements—Design/Technology

Bachelor of Fine Arts Degree

The program in design/technology prepares students for careers as designers or technicians in the fields of costuming, electrics, properties, scene painting, scenery, and sound for professional theatre. During the junior year, students begin a concentration in either design or production. 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 grade point average 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.
year of study. Before students can begin their junior or senior year of the production or design sequence, they must have a 2.5 grade point average on all design and technology classes and a 2.25 overall grade point average. 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 grade point average falls below 2.25 will be suspended from production, graphics, and design classes, and from using facilities until the grade point average 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 advised to leave the program.

General Education Requirements

Required option:
TH 214

Departmental Requirements

TH 124, 125, 126, 131, 147, 148, 210 (18 hours), 220, 224, 225, 226, 227, 228, 229, 301, 320 (18 hours), 328, 329, 360, 361, 362, 366, 367, 368

One of the following concentrations:

Technology Concentration
TH 420 (18 hours), 429 (6 hours), and 6 hours chosen from TH 324, 325, and 326

Design Concentration
TH 324, 325, 326, 424, 425, 426, and 429

Electives

Total 192

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.

General Education Requirements

Required option:
TH 214

Departmental Requirements

TH 102, 120, 144, 145, 146, 222 (4 hours), 301, 350, 351, 352, 360, 361, 366, 367, 368, 375, 410 (3 to 6 hours), 450, 451, 452

Recommended Electives

TH 240, 241, 242, 244, 245, 246, 254, 255, 256

Related Requirements

DAN 111, 112, 113
MUS 141, 142, 143, or TH 100 (3 hours)

Electives

Total 192

Degree Requirements—Directing/Stage Management

Bachelor of Fine Arts Degree

Directing/stage management students complete the first year of the acting program before they specialize in courses related to directing during their junior and senior years. Directing students should plan on continuing their studies at the graduate level; students who concentrate in stage management are encouraged to consider graduate studies, but may find internships or apprenticeships more desirable.

The directing/stage management program requires a minimum overall grade point average of 2.5. Students who wish to enter the program must audition for the acting program and interview for the directing program. Acceptance is based on faculty judgment of the student's potential as a professional stage manager or as a graduate student in directing. Faculty consider self-discipline, academic record, motivation, and communication and interpersonal skills in their decision. Directing opportunities are reserved for students who have demonstrated to the faculty their theatrical knowledge and skills, responsibility and reliability, good judgment, and effective interpersonal relations.

General Education Requirements

Required option:
TH 214

Departmental Requirements

TH 102, 120, 144, 145, 146, 222 (4 hours), 301, 350, 351, 352, 360, 361, 366, 367, 368, 375, 410 (3 to 6 hours), 450, 451, 452

Recommended Electives

TH 240, 241, 242, 244, 245, 246, 254, 255, 256

Related Requirements

DAN 111, 112, 113
MUS 141, 142, 143, or TH 100 (3 hours)

Electives

Total 192

Degree Requirements—Theatre Studies
Urban Affairs and Geography

Professors: Mazey, Oshiro
Assistant Professors: Dolan, Dustin (chair), Green, Swindell, Wetter (WSU-Lake Campus)
Instructor: Lowrey

Urban Affairs

Urban Affairs is an interdisciplinary program offering a Bachelor of Arts or Bachelor of Science degree. The program provides students with an appreciation of the urban environment as a complex system and teaches them to approach urban processes from an interdisciplinary perspective. The program is designed to prepare some students for junior- or entry-level positions in both local government and selected community agencies, but it also provides a foundation for students preparing for graduate work. To be admitted as majors, students must have at least a 2.3 grade point average; interested students may apply for admission any time. Majors are required to complete a common core of courses and then select a specialization in one of three areas: urban planning, public management, criminal justice, or community development.

For further information about the program and admission criteria and procedures, students should contact the Department of Urban Affairs.

Degree Requirements—Urban Affairs

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 60–61

URS 311, 411, 492 14
Choose any five of the following: 19–20
EC 330; GEO 340; SOC 444; URS 317, 321, 345, 399, 425, 470, 475
Urban Affairs specialization 27
Related Requirements 3–4
ENG 330 or 333 3–4
MTH 129, 228, plus two statistics and two computer science courses to be approved by the department 22–26
Electives 44–50
Total (minimum requirement) 192

Criminal Justice Specialization Area

PLS 440, 442 8
SOC 330, 442 8
Three appropriate courses numbered 300 or above

Urban Management and Administration Specialization Area

PLS 429, 446 8
PSY 304 4
COM 445 4
Three appropriate courses numbered 300 or above

Urban Planning: Physical/Social Specialization Area

GEO 365 4
PSY 304 4
SW 370 4
Four appropriate courses numbered 300 or above

Community Development Specialization Area

URS 318, 412 8
EC 330 3
Four appropriate courses numbered 300 or above

Bachelor of Science Degree

General Education Requirements

Departmental Requirements 60–61

URS 311, 411, 492 14
Choose any five of the following: 19–20
EC 330; GEO 340; SOC 444; URS 317, 321, 345, 399, 425, 470, 475
Urban Affairs specialization 27
Related Requirements 3–4
ENG 330 or 333 3–4
MTH 129, 228, plus two statistics and two computer science courses to be approved by the department 22–26
Electives 44–50
Total (minimum requirement) 192

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 or future plans. Depending on their interests or plans, geography majors must 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 the technical skills and logic that are becoming critical as more geography majors seek employment in government and business. 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 or as a secondary teaching major in social science, as a part of an earth science program, or as part of an elementary teaching major. Students majoring in geography may qualify for certification at the secondary level by meeting the minimum requirements in professional education courses for certification by the state of Ohio. Students interested in this option should consult the College of Education and Human Services for information.

Because of sequential requirements and prerequisites, students are strongly urged to consult with an advisor before registering.

The department participates in the university’s dual major program; for further details, students should see the department chair.

Geography majors may participate in the department’s internship program. The internship is designed to complement geography students’ class work and give 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

The Department of 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

General Education Requirements 57

Departmental Core Requirements 26

GEO 201, 202, 203 9
GEO 365, 385 10
GEO 486 Foundations of Geography 3
One course in regional geography 4

Departmental Major Requirements 32–33

GEO 322, 330, 361 12
GEO 340, 353, 375 12
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, and political science

Language and Research Methods Requirement 24–32

Electives 21–29

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

General Education Requirements 57

Departmental Core Requirements 26

GEO 201, 202, 203 9
GEO 365, 385 10
GEO 486 3
One course in regional geography 4

Departmental Major Requirements 36–37

Physical Component

Three of the following:

GEO 322, 330, 331, 432 12
Economic-Social Component
Three of the following:
GEO 302, 340, 353, 375, 455 12

Skills Component
Three of the following:
GEO 361, 362, 445, 446, 447, 463 12–13

Related Course Requirements 28–29

Mathematics and Statistics
STT 264, 265
MTH 228 13

Philosophy
Two of the following:
PHL 215, 470, 472 8

Computer Science
Two of the following:
CS 141, 142, 205, 300 7–8

Electives 43–44
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, and meet certain minimum grade point averages. 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 grade point average of 2.5 is required in the minor.

The course requirements for a minor in geography are:
GEO 330, 331 8
GEO 340, 353 8
GEO 361, 365 9
GEO 385 5
GEO 481/492 2
The nursing program, which leads to a Bachelor of Science in Nursing (B.S.N.) degree, is designed to meet students' individual needs. A program is also available for registered nurses who want to earn a B.S.N. degree. An honors program is available for students with superior academic ability.

The professional nurse is increasingly being viewed as the nucleus of the health care system, as well as serving as an advocate for health care consumers. Therefore, Wright State's program prepares self-directed graduates who can function as generalists in a number of settings and work in collaboration with other health professionals to coordinate and improve the health care of individuals, families, and communities.

The nursing program at Wright State is accredited by the National League for Nursing and approved by the Ohio Board of Nursing. Graduates of the program are eligible for the National Council of State Boards Licensing Examination (NCLEX) to become licensed as registered nurses.

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-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 grade point average, and have at least a 2.5 cumulative grade point average. Due to the number of applicants seeking admission to the College of Nursing and Health, admission will be competitive based upon cumulative grade point average. 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 have their health care provider send documentation to the College of Nursing and Health before they enter NUR 217. Students must continue to document their meeting of health requirements each year thereafter. Faculty may request a student’s reexamination if evident limitations interfere with the student’s clinical practice or learning.

All students are required to purchase liability (malpractice) insurance in the amount specified by the College of Nursing and Health. A form is available in the college office. Students must also document that they have personal health insurance. Students must submit proof of CPR certification before they enter NUR 217. CPR certification must be renewed as required.

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. New students will initially be advised in the University Division. 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 grade point average of 2.5 or higher, as well as a C or better in all science courses;
3. successfully complete ENG 101 and 102, PSY 105 and 110, CHM 102, SOC 200, ANT 201, and M&I 120;
4. submit a College of Nursing and Health admissions application by the established deadline.

Please note that the College of Nursing and Health admission requirements are currently under review. Any changes will take effect fall 1996. Please contact the College of Nursing and Health for specific information.
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 Division until they meet the requirements listed for new students, including a grade point average of 2.5 or above. Transfer students with 75 or more credits and at least a 2.5 grade point average 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 completion program 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.

Registered nurses with associate degrees in nursing may complete all B.S.N. degree requirements in two calendar years of full-time study. Diploma graduates without university credits will need additional time to complete the program.

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 Requirements 59.5

Required Substitutions
Natural Science:
CHM 102
ANT 201, 202
Behavioral Sciences:
PSY 105
Math:
STT 160

Support Courses 32

M&I 220
P&B 301, 302
PSY 110, 311, and 341
BMB 250
PHR 340

Nursing Requirements 88


Free Electives 12.5

Total 192

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 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 grade point average for the 45 credit hours immediately preceding the winter quarter of their junior year. The applications are reviewed by the College of Nursing and Health Scholarly Development Committee. Final acceptance into the program is contingent on successful completion of NUR 308 or NUR 321.

Application forms are available in the college office.
Admissions and Advising

Students must apply for admission to the College of Science and Mathematics. Applicants must meet the following requirements:
1. completion of at least 24 credit hours with a minimum grade point average of 2.0 overall;
2. 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 requirements, such as specific courses or higher grade point averages 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. 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 183 credit hours of acceptable academic work with a minimum grade point average of 2.0 and at least a 2.0 grade point average in a major field. A student may find it necessary to earn more than 183 credit hours to meet the requirements of the curriculum chosen.
4. complete at least 75 credit hours in advanced courses (numbered 200 and above) applicable to the degree.
5. 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.
6. 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.

The College of Science and Mathematics offers programs leading to bachelor’s degrees in several disciplines. The Bachelor of Science degree is offered in biological sciences, chemistry, environmental sciences, geological sciences, mathematics, medical technology, physics, and psychology. Bachelor of Arts programs are available in biological sciences, chemistry, geological sciences, mathematics, and psychology. The college also offers master’s and doctoral degrees in certain programs.

Interdisciplinary baccalaureate programs are offered by some departments, such as geological sciences, mathematics, and physics.

Dual major programs are available in virtually all departments (e.g., chemistry-business, physics-education); students should discuss any interest with the college advisor. Dual majors will receive a Bachelor of Science degree when both of the departments are in the College of Science and Mathematics, if approved by both departments. Students interested in certain professional programs ordinarily can take one of the science curricula or a modified program that will be acceptable for graduation, for transfer elsewhere to the desired professional program, or for admission to the Wright State University Schools of Medicine and Professional Psychology.

With prior approval by the appropriate departments, it may be possible for students to get credit for research done on individual projects at any of the national laboratories under the Science and Engineering Research Semester (SERS) funded by the U.S. Department of Energy and the Office of Energy Research. Participating departments are biological sciences, mathematics and statistics, and physics.
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 must also:

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, computer science, geological sciences, mathematics and statistics, physics, and psychology. These honors programs give well-qualified students the opportunity to carry out an independent research project and pursue advanced course work. Students interested in pursuing an honors program should consult with the chair of the appropriate department. Honors are awarded at graduation, upon completion of requirements.

Cooperative Education Program

The cooperative education program permits students to integrate work experience into their academic programs. In all of the departments in the college, credit hours earned in the cooperative education program apply to departmental requirements.

Teacher Certification

Students seeking certification to teach in secondary schools should apply for admission to the teacher certification program at the beginning of their sophomore year. These students should contact a teacher certification advisor in the College of Education and Human 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, and Sigma Gamma Epsilon Honor Society; for physics majors, the Physics Club and Sigma Pi Sigma Honor Society; and for psychology majors, the Psychology Club and Psy Chi Honor Society.

Anatomy

Professor Zambard (chair)
Associate Professors Fyffe, Kuntzman, Nagy, Nieder, Pearson, Ream, Scott
Voluntary Associate Professors Makkar, Phillips

The Department of Anatomy encompasses the areas of gross anatomy, microanatomy (histology, cell biology, ultrastructure [Transmission and Scanning Electron Microscopy]), embryology, and neuroanatomy. The department provides limited course work for undergraduate students planning to enter medicine, nursing, and other health-related professions. The department also provides course work at the doctoral level in the Biomedical Sciences Ph.D. Program. In addition, the department also offers graduate courses for master’s degree candidates with thesis (two years), and course option (one year).
Biochemistry and Molecular Biology

Professors Batra (Emeritus), Leffak, Organisciak (chair), Weisman
Associate Professors Alter, Fritz (Emeritus), Piaietta, Prochaska, Reo
Assistant Professors Berberich, Ho, Turchi, Wilson

The Department of Biochemistry and Molecular Biology offers courses in the molecular aspects of gene expression and cellular processes, as well as in nutrition. Although the department does not offer 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, Carmichael, Honda, Isaacs, Kantor, Runkle, Seiger (Emeritus), Wheatly (chair)
Associate Professors Amon, Barbour, Burton, Goldstein, Hull, Low, Manrak, Pohlman, Rake (Emeritus), Rossmiller (Emeritus), Wood
Assistant Professors Baird, González, Hickey (WSU–Lake Campus), Krane, Tomlin
Medical Technology Clinical Year Program
Associate Professor Low (program 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 medical technology, Bachelor of Science in environmental sciences, and Master of Science in biological sciences. A dual major program with chemistry is available.

There are minimum grade requirements for departmental courses in each of the undergraduate degree programs. See degree requirements for specific programs 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, in-depth approach to the life sciences. The departmental requirements consist of a balanced core of courses selected from several subject areas, combined with elective courses from the Departments of Biological Sciences, Anatomy, Physiology and Biophysics, Biochemistry and Molecular Biology, and Microbiology and Immunology.

Within this degree, several different options are open 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. It can also serve as preprofessional preparation for medical, dental, or veterinary sciences. The biobusiness option offers a business minor.

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 Requirements 42

Required substitutions, which are also major program requirements:
BIO 112, 114, 115
MTH 228 or 229 and 230 or STT 264 and 265

Departmental Requirements 75

Area A (three courses)
BIO 112, 114, and 115 12

Area B (six courses)
BIO 210, 211, 212, 252, 253 or 254; 255 or 256 27

Area C
BIO 410, 492 6

Area D (life science electives) 30

A minimum of 30 credit hours selected from 300- and 400-level courses in the College of Science and Mathematics. At least 15 credits must be courses with a BIO prefix. Up to 15 credits may be selected from
the Departments of Anatomy, Biochemistry and Molecular Biology, Microbiology and Immunology, and/or Physiology and Biophysics. Up to 10 credits may be selected from Chemistry, Geology, Geological Sciences, Mathematics and Statistics, Physics, and/or Psychology. With departmental permission, one additional course from Area B may be used in Area D. Up to 8 credits of independent study courses (BIO 399, 488, 492, 499) may apply. Departmental honors students may apply up to 12 hours of BIO 495.

Required Supporting Courses 65-70.5

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 121, 122, 123, or 191, 192, 193</td>
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<tr>
<td>CHM 211/215, 212/216, 213/217</td>
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<tr>
<td>PHY 111/101, 112/102, 113/103 or 240/200, 242/202, 244/204</td>
<td>15</td>
</tr>
<tr>
<td>MTH 229 or 228, and STT 264, 265; or MTH 229, 230, 231</td>
<td>13 15</td>
</tr>
</tbody>
</table>

Each student must also complete a laboratory course in analytical chemistry or a course in computer science (CS 205 recommended). 4 7.5

Electives 8.5-14

Total (minimum requirement) 196

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 Requirements 45

Required substitutions, which are also major program requirements:

BIO 112, 114, 115
STT 264, 265

Departmental Requirements 45

Area A (three courses)

BIO 112, 114, 115 12

Area B (six courses)

BIO 210, 211, 212, 252; 253 or 254; 255 or 256 27

Area C

BIO 410, 492 6

Required Supporting Courses 47

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
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<td>CHM 121, 122, 123, or 191, 192, 193</td>
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<tr>
<td>CHM 211, 212, 213, 215</td>
<td>14</td>
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<tr>
<td>PHY 111/101, 112/102, 113/103</td>
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<tr>
<td>MTH 130</td>
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</table>

Must include the following:

1. Select 15 credits from 300- and 400-level courses in the Department of Biological Sciences (BIO prefix). You may apply up to 5 credits of independent study courses (BIO 399, 488, 492, 495, and 499).

2. Twenty-seven credit hours in academic courses outside the College of Science and Mathematics and the College of Engineering and Computer Science.

3. At least 23 of the elective credit hours in courses at the 200 level or above.

4. At least three courses in a department in the College of Science and Mathematics or the College of Engineering and Computer Science other than the major department.

Total (minimum requirement) 196

Medical Technology

The medical technology program includes three years of prescribed study at Wright State University and a one-year clinical laboratory curriculum in a medical technology program accredited by the American Medical Association Council on Medical Education through the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS). Upon successfully completing the program, students receive the Bachelor of Science in Medical Technology 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 medical technology 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—Medical Technology

Bachelor of Science in Medical Technology 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 Requirements 42

Required substitutions, which are also major program requirements:
BIO 112, 278, 279
STT 264, 265

Departmental Requirements 40
BIO 112, 278, 279 13
BIO 252, 303 10
BIO 210, 211, 410, 476/477 17

Required Supporting Courses 64.5
CHM 121, 122, 123, or 191, 192, 193 15
CHM 211/215, 212/216, 213/217 18
CHM 312/314 7.5
MTH 129; STT 264, 265 11
M&I 426, 427, 428 9
CS 205 4

Clinical Program 65

MT 434 through 458

Total 211.5

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.

Medical Technology
Clinical Year Program

The College of Science and Mathematics offers a comprehensive Medical Technology Clinical Year 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, Mercy Hospitals in Hamilton and Fairfield, Miami Valley Hospital, McCullough-Hyde Memorial Hospital, and CompuNet Clinical Laboratories. Upon successfully completing the program, students are eligible to receive the Bachelor of Science in Medical Technology 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 clinical program.

Eligible applicants from nonaffiliated universities will be considered. These applicants must also meet NAACLS requirements 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 the Medical Technology Program director during the fall quarter of the year before they enter the program.

Curriculum Outline

Course Requirements

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<td>MT 442, 443</td>
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<td>MT 446, 447, 456</td>
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<td>BIO 499</td>
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<tr>
<td>BIO 401</td>
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</tbody>
</table>

Total 65

Environmental Sciences

The curriculum in environmental 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. 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 Sciences

Bachelor of Science Degree

A grade of C or better must be achieved in each course used to fulfill the Environmental
Courses, and Supporting Electives

I. General Education Requirements

Required substitutions, which are also major program requirements:

BIO 112, 278, 279
STT 264, 265

II. Science and Communication Core

BIO 112, 114, 115, 252, 278, 279, 415, 492
CHM 121, 122, 123, 211, 212, 213
PHY 111/101, 112/102, 113/103
MTII 228, STT 264, 265
CS 205
COM 101
ENG 333

III. Environmental Sciences Core

EH 360, 362, 368, 431, 462, 466/467
Air Pollution (New course, no number as of printing date)
Solid and Hazardous Waste Management (New course, no number as of printing date)
EH 366 (field internship)
PLS 438

IV. Environmental Specialty

Option A: Public Health and Environmental Protection
EH 461, 463
BIO 464/475
BIO 476/477
STT 430

or

Option B: Industrial Hygiene and Environmental Protection
EH 468/469
BIO 413
CHM 215/216/217
MGT 200

V. Required Supporting Electives

Courses must be selected from an approved list in consultation with a faculty advisor.

Total 200 or 201

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.

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 grade point average 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.

Chemistry

Professors Batino (Emeritus), Cummings (Emerita), Feld, Fortman, Goldfarb, Katovic, Servé (chair), Seybold, Tierman

Associate Professors Bombick, Buell (Emeritus), W SU - Lake Campus), Dolson, Grossie, Hess, Ketcha, Turnbull

Assistant Professors Cook (Emerita), McGowin

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 4 credit hours of this research course during the senior
year. Although there is no foreign language requirement, two years of study in German, French, or Russian, or one year each of two of these languages, is strongly recommended.

In the Bachelor of Science program with an orientation for premedical students, CHM 319, 417, 420, 421, 425, and 445 are not required. The physics requirement may be met with the PHY 111, 112, 113 sequence and PHY 101, 102, 103 laboratories. BIO 112, 114, and 115 are required. At least two courses must be selected from BIO 202, 206, 302, 303, 305, 307, 403. In addition, students must take at least 9 credit hours selected from BMB 421, 423; BIO 402; CHM 417, 420, 421, 440, 441, 465/467, 466/468. Students serious about medical school should elect BMB 421 and 423. Students should also be careful to fulfill all university and college degree requirements. 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.

General Education Requirements 67

Required substitutions
MTH 229, 230
CHM 121, 122, 123, or 191, 192, 193

Departmental Requirements 66

CHM 211/215, 212/216, 213/217 18
CHM 312/314, 319, 417, 451, 452, 453; 457, 458 28.5
CHM 420, 421, 425, 440, 445, 465/467, 466/468 18

Related Course Requirements 21

MTH 231 5
PHY 240/200, 242/202, 244/204 16

Electives 42

CHM 499 and EGR 153 are recommended along with at least one year of a foreign language.

Total 196

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.

General Education Requirements 67

Required substitutions
MTH 229, 230
CHM 121, 122, 123, or 191, 192, 193

Departmental Requirements 38.5

CHM 211/215, 212/216, 213/217 18
CHM 312/314, 451, 452/457, 453/458 20.5

Related Course Requirements 30.5–33

MTH 231 5
PHY 240/200, 242/202, 244/204; or
111/101, 112/102, 113/103 13.5–16
Science electives 12

Foreign Language Requirement 21

Additional Courses outside Science and Mathematics and Engineering and Computer Science 27

Electives 9.5–12

Total (minimum requirement) 193.5

Dual Major Degree Requirements—Chemistry

Dual Major Requirements in Chemistry

General Education Requirements 67

Required substitutions
MTH 229, 230
CHM 121, 122, 123, or 191, 192, 193

Departmental Requirements 38.5

CHM 211/215, 212/216, 213/217 18
CHM 312/314, 451, 452/457, 453/458 20.5
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. Three quarters of GL 428 (Geology Colloquium) are required. 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, Ohio Fossils). 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.

Geological Sciences

Candidates for the B.A. or B.S. degree in geological sciences who have a cumulative grade point average 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 grade point average 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 6 and 9 credits in GL 499 taken as a portion of the prescribed block of geological sciences and related electives in the case of the B.S. degree or geological sciences electives in the case of the B.A. degree. It will be graded only as satisfactory or unsatisfactory, without being awarded a letter grade. Students may choose the topic from any branch of geological sciences; current course listings in this catalog may be taken as a rough
indications of the range available. Broad latitude will be allowed in the study methods adopted: field work, experiments, theoretical studies, and literature study are all considered viable, either singly or in combination. The candidate's thesis advisor will normally judge the completed thesis, but may elect to co-opt other members of the faculty for assistance, either within the department or outside.

Applications should be made in writing to the Undergraduate Studies Committee, Department of Geological Sciences, and should include the following:
1. Name of student
2. Expected date of graduation (which must be at least three full quarters, not including summer quarter, after the date of the application)
3. A summary proposal (of about a hundred words) for a senior thesis topic
4. The endorsement of the student's departmental advisor, and that of the senior thesis advisor as well if not the same
5. Candidates will be encouraged to attend at least one interdisciplinary honors seminar

Degree Requirements—Geological Sciences
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 broader and more 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 Requirements 58.5

Required substitutions, which are also major program requirements:

GL 251, 252, 253, 254, 255, 256

Departmental Requirements 46.5

GL 311, 485, 486, 428, 434 24

Geological sciences electives 22.5

Related Course Requirements 47-50

BIO 112, 114, 115, or PHY 111, 112, 113 or

CHM 121, 122, 123, or 191, 192, 193 12–15

Supporting electives 25

Mathematics 10

Unrestricted Electives 37

Total 189–192

Degree Requirements—Geological Sciences/Ground Water Technology Option

Bachelor of Arts Degree

The ground water technology option prepares the graduate for a professional role in technical support, supervision, and ultimately in management in the ground water resources area. The curriculum is drawn from accountancy, business administration, chemistry, computer science, economics, engineering, geology, and several other fields. The program emphasizes technical practice and provides specific experience, including internship, in practice areas. Students seeking a career as a professional hydrogeologist or admission into a hydrogeology graduate program are referred to the Bachelor of Science Degree general geology option.

General Education Requirements 60.5–65.5

Required substitutions, which are also major program requirements:

MTH 229, 230, or MTH 228

GL 251, 252, 253, 254, 255, 256

Departmental Requirements 52.5

GL 309, 311, 365 11.5

GL 428, 434, 450, 451, 458, 485, 487, 499 33

Geological sciences electives 8

Related Course Requirements 58–62

ACC 201, 202, 203 9

CHM 101, 102, 107 13

CS 205 or CS 220 or EGR 153 4

EC 201, 202 6

ME 202 4

MGT 200 3

STT 264 4

STT 265 4

Skills requirement* 15

Unrestricted Electives 8–17

Total 188

*This requirement is intended either to broaden or deepen existing or newly gained skills—e.g., data processing in addition to CS 220, technical writing in addition to ENG 101 and 102, or more engineering drawing and/or welding or equipment repair. This area also includes a minimum of ten weeks of internship practice with an industry contractor or government agency in an approved, supervised practical activity.

STT 265 is not required of students who have taken MTH 229, 230 for general education requirements.

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 grade point average 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 34.5–35.5

Required Courses

GL 251/252, 253/254, 255/256, or

GL 105, 106, 107, 252, 254, 256 13.5–14.5

A minimum of 8.5 credit hours selected from:

GL 311, 380, 381, 382, 383 8.5

GL 485, 486, 487, 434

0.5 credit hour of GL 428 0.5

Elective Courses

A minimum of 12 credit hours of geological sciences electives. In selecting these courses, the following applies:

1. No courses numbered below 200 are acceptable.
2. No more than 4 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 3 credit hours of field-oriented courses (excluding GL 434) are acceptable.

Total 34.5–35.5

SCIENCE AND MATHEMATICS

Geological Sciences
Mathematics and Statistics

Professors Arasu, Dowbrowski, Fricke, Khamis, Mazumdar, McKee, Park, Ratnaparkhi, Rutter (chair)
Associate Professors Evans, Guo, Haber (Emeritus), Ho, Kaplan, Low, Maneri, Mann, Meike, Mercer, Miller, Pedersen, Perkel, Seoh, Turyn, Vance, Voss
Assistant Professors Cico (WSU-Lake Campus), Craighead, Farrell, Hawley (WSU-Lake Campus), Hou, Koplon, Loi, Lu, Mathews, Nichols, Rife (WSU-Lake Campus), Svobodny, Tarpey
Instructors Bell, Harris, Lester, Nagy, Otto, Reineke, Sprowls, Wiley

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 too.

Major Programs

The Bachelor of Science program offers four concentrations: pure mathematics, applied mathematics, computing, and statistics. These four programs are adaptable to many postgraduation goals, ranging from various scientific or professional careers to graduate school. 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. The College of Education and Human Services offers a Bachelor of Science in Education with a major in mathematics education.

A cooperative education program is available that allows students to alternate quarters of work and study during their junior and senior years. Interested students should contact the Office of Career Services for more information.

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 grade point average 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 Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>Required substitutions: MTI 229, 230 PHY 240/200, 242/202, 244/204 (or PHY 111/101, 112/102, 113/103, 210)</td>
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<tr>
<td>Departmental Requirements</td>
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<tr>
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<th>Elective Courses</th>
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<table>
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<tr>
<th>Electives</th>
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<tbody>
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<td>Foreign language study recommended</td>
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Degree Requirements—Mathematics/Computing Concentration

Bachelor of Science Degree

General Education Requirements

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| Required substitutions: MTI 229, 230 PHY 240/200, 242/202, 244/204, or PHY 111/101, 112/102, 113/103, 210 is a required substitution. | |
**Departmental Requirements**

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<th>Course Code</th>
<th>Credit Hours</th>
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<tr>
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Two courses selected from MTH 407, 410, 416, 419, 450, 457, 458, 459, 457, 458, 459, STT 428

**Related Course Requirements**

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At least three from:

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<tr>
<td>CS 405, 466, 470, 480</td>
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<td>MTH 476, 477</td>
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**Electives**

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**Total**

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### Degree Requirements—Mathematics/Statistics Concentration

#### Bachelor of Science Degree

**General Education Requirements**

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**Required substitutions:**

- MTH 229, 230

**In Area Four,** if physics is chosen for the natural sciences requirement, then either PHY 240/200, 242/202, 244/204, or PHY 111/101, 112/102, 113/103, 210, 211 is a required substitution.

**Departmental Requirements**

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**Required Courses**

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<td>55</td>
</tr>
<tr>
<td>STT 360, 361, 461, 462, 466, 467, 492</td>
<td></td>
</tr>
</tbody>
</table>

**Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STT courses numbered above 367</td>
<td></td>
</tr>
<tr>
<td>CS 470</td>
<td></td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STT courses numbered above 367</td>
<td></td>
</tr>
<tr>
<td>MTH 431, 432</td>
<td></td>
</tr>
</tbody>
</table>

**Related Course Requirements**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
</tr>
</tbody>
</table>

**Electives**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>183</td>
</tr>
</tbody>
</table>

---

### Degree Requirements—Mathematics

#### Bachelor of Arts Degree

**General Education Requirements**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
</tr>
</tbody>
</table>

**Required substitutions:**

- MTH 229, 230

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
</tr>
</tbody>
</table>

**Required Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 231, 232, 255, 280, 355, 431, 440, 451, 471, 492</td>
<td></td>
</tr>
<tr>
<td>STT 360, 361</td>
<td></td>
</tr>
<tr>
<td>MTH 432 or 452</td>
<td></td>
</tr>
</tbody>
</table>

**Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STT 401, 461, 462, 466, 467</td>
<td></td>
</tr>
</tbody>
</table>

**Related Course Requirements**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
</tr>
</tbody>
</table>

**Electives**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>183</td>
</tr>
</tbody>
</table>

---
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.

<table>
<thead>
<tr>
<th>Electives</th>
<th>27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign language study is recommended</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>183</strong></td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>64</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required substitutions:</strong></td>
<td></td>
</tr>
<tr>
<td>MTH 229, 230</td>
<td></td>
</tr>
<tr>
<td>In Area Four, if physics is chosen for the natural sciences requirement, then either PHY 240/200, 242/202, 244/204, or PHY 111/101, 112/102, 113/103, 210 is a required substitution.</td>
<td></td>
</tr>
</tbody>
</table>

**Departmental Requirements**

<table>
<thead>
<tr>
<th><strong>Required Courses</strong></th>
<th><strong>35</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 231, 232, 255, 355</td>
<td></td>
</tr>
<tr>
<td>At least two of the following:</td>
<td></td>
</tr>
<tr>
<td>MTH 431, 432, 451, 452, 457, 458, 459, 480, 481, 482</td>
<td></td>
</tr>
<tr>
<td>STT 461, 462</td>
<td></td>
</tr>
</tbody>
</table>

**Elective Courses**

| Maximum of two at the 200 level |        |
| STT 360, 361, 461, 462, 466, 467 |        |

**Related Course Requirements** 8

CS 141 and 142 or equivalent

**Bachelor of Arts Degree—Mathematics**

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>64</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required substitutions:</strong></td>
<td></td>
</tr>
<tr>
<td>MTH 229, 230</td>
<td></td>
</tr>
</tbody>
</table>

**Departmental Requirements**

<table>
<thead>
<tr>
<th><strong>Required Courses</strong></th>
<th><strong>30</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 229, 230, 231, and either MTH 253 or 255</td>
<td></td>
</tr>
</tbody>
</table>

**Elective Courses**

| STT 360, 461                     |        |

Only one of MTH 253 and 255 can count toward the minor. Special rules apply for students with credit for the 5-credit MTH 355 course, last taught spring 1992. (See the Department of Mathematics and Statistics or your advisor for details.) Courses cross-listed with the student's major department cannot be included in the minor. A grade point average 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 grade point average of at least 2.0 must be earned in all minor courses at this level.

**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**

<table>
<thead>
<tr>
<th>Departmental Requirements</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required Courses</strong></td>
<td></td>
</tr>
<tr>
<td>MTH 229, 230, 231, and either MTH 253 or 255</td>
<td></td>
</tr>
</tbody>
</table>

**Elective Courses**

| STT 360, 461                     |    |

Only one of MTH 253 and 255 can count toward the minor. Special rules apply for students with credit for the 5-credit MTH 355 course, last taught spring 1992. (See the Department of Mathematics and Statistics or your advisor for details.) Courses cross-listed with the student's major department cannot be included in the minor. A grade point average 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 grade point average of at least 2.0 must be earned in all minor courses at this level.

**Note:** Students majoring in secondary education mathematics may earn a B.S. dual major in mathematics by completing the requirements of the B.A. dual major program described below.
Minor Requirements—Statistics

Departmental Requirements

Required Courses
MTTH 229, 230, and MTTH 253 or 255 or 355
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 grade point average of at least 2.0 must be attained in all minor courses, and a grade point average of at least 2.0 must be earned in all minor courses at the 300 or 400 level.

Microbiology and Immunology

Professors  Bigley, Giron, Rote (chair)
Assistant Professors  Burns, Chandler, Fink

The Department of Microbiology and Immunology offers introductory courses in microbiology and immunology, as well as a number of advanced courses. The introductory microbiology course is intended for health science majors, except for medical technologists. The advanced courses provide an area of concentration for life science majors. The course offerings cover diagnostic microbiology, virology, and immunology, as well as the principles of immunology, immunobiology, virology, and bacteriology. The program emphasizes the biology of host-parasite interactions and the structure-function relationship unique to microorganisms. A major in biological sciences with a concentration in microbiology and immunology prepares the student for graduate study in these areas or for further training as a diagnostic or research laboratory technologist.

Individual prerequisites are listed for each course, although students who enroll in courses at the 400 level should have completed the biological sciences sequence through BIO 212 (BIO 210, 211, 212), as well as CLIM 211, 212, 213, and 312. BMB 421 and 423 or their equivalent are recommended as preparation.

Physics

Professors  Bambakidis (chair), Hanson (Emeritus), Martin, Wolfe
Associate Professors  Clark, Farlow, Hemsley, Listerman, Wood
Assistant Professors  Foy, Skinner

The Department of Physics offers a program leading to a Bachelor of Science 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 major in physics and earn the Bachelor of Science in Education degree awarded by the College of Education and Human Services; see the Physics Education section of the College of Education and Human Services chapter for more information on this program.

Minimum requirements for a Bachelor of Science degree in physics include successfully completing the required courses, with a grade point average 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 that every physics major take PHY 494, 499. The physics major who plans to pursue graduate study is also strongly urged to take the following courses: PHY 480, 481, 482; one to two years of a foreign language, either French, German, or Russian; and additional mathematics courses.

Degree Requirements—Physics

Bachelor of Science Degree

General Education Requirements

Areas One through Four (not counting substitutions listed below)

Required substitutions, which are also major program requirements:

MTTH 229, 230
PHY 240/200, 242/202, 244/204

Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 240/200, 242/202, 244/204; or equivalent</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>
</tr>
</tbody>
</table>
Physics

Related Course Requirements
MTH 229, 230, 231, 232, 233, 253 28
MTH 332, 333 6
CHM 121, 122, 123, or 191, 192, 193 (or 361) 15
EGR 153 or equivalent 4
Electives 36
Total 192

Since the order in which courses are taken is important, students should closely follow the suggested programs for the required courses.

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/Geophysics 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 degree in physics with a geophysics 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.

Computing Option Requirements
CS 240, 241, 242 12
MTH 257 3
CS 400 8
CS 316, 317 8

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.

Biology Option Requirements
BIO 112, 114, 115 12
BIO 492 (biophysics emphasis) 2
CHM 211, 212 12
Electives chosen from:
BIO 202, 306, 307, 402/405; BMB 421, 422 9

Physics Honors Program

The Department of Physics has 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 grade point
average 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 9 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 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
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.
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.

Total: 45

In addition, students must take:

4. CS 141 and CS 142 or EGR 153 or equivalent (total 8 hours);
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
- (or PHY 111/101, 112/102, 113/103, 210, 211)
- PHY 260, 315, 371

Elective Courses

(Nine hours chosen from the following courses as approved in advance by the Department of Physics)
- PHY 300, 301, 316, 322, 332, 372, 420, 450, 451, 452, 460, 461, 462, 494 (maximum 3 hours)

Physiology/Biophysics

Professors Glaser, Lauf (chair)
Associate Professors Goldfinger, Lu, Nussbaum, Putnam
Assistant Professors Corbett, Dean, Mechlin, White

The Department of Physiology and Biophysics provides a curriculum for students who plan to enter into medicine, nursing, or other health-related professions. 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 Crampton (Emeritus), Hennessy, H. Klein, S. J. Klein (Emeritus), Kurdek, Nagy, Wilson (Emeritus)
Associate Professors Bennett, Campbell, Colle (chair), Davis, Edwards, Flach, Kruger, Moss, Page, Rentsch, Tsang, Weber
Assistant Professors Backs, Citera, Gilkey, Gill (WSU Lake Campus), Steele-Johnson

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 program is recommended for students planning careers in academic, research, or professional fields. The Bachelor of Arts program may also be suitable for these goals; requirements for graduate schools vary considerably. By supplementing their programs with additional courses, students can better tailor their programs to meet their individual goals. Students should obtain a copy of the booklet Preparation for Graduate Study from the Department of Psychology and consult with their departmental advisors.

Graduate schools expect applicants to have a background in introductory or general psychology, experimental psychology with laboratory, and statistics; beyond these courses, there are few specific requirements. Students planning to apply to graduate schools should seek a broad background in psychology rather than
highly specialized undergraduate training. A basic curriculum should include courses in introductory psychology, statistics and experimental design, laboratory courses, survey courses in the major content areas, and a few advanced electives.

Students must have earned 30 hours and have a cumulative grade point average of 2.25 to transfer into the Department of Psychology. Once students have been accepted by the department, they are invited to attend a department orientation. Students receive critical information about degree completion, graduate school, job opportunities, etc., at this orientation. After attending orientation, students should work closely 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 also 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**

**General Education Requirements**

54

Required substitutions, which are also major program requirements:

STT 264, 265

**Departmental Requirements (minimum)**

65

PSY 105, 110

PSY 300

Four of the following (at least one from each group):

PSY 311, 331, 341, 351

PSY 321, 361, 371, 391

Two courses from the following:

PSY 323, 333, 343, 353, 363, 373, 393

Four 400-level electives in psychology (excluding 432, 489, 490, 498, 499)

Minimum electives in psychology

12

**Related Course Requirements**

19

MTH 128 or 129

STT 264, 265

CS 141

CS 142 or PSY 401

**Electives**

37

**Total (minimum requirements)**

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.

**Degree Requirements—Human Factors Concentration/Experimental Psychology**

**General Education Requirements**

54

Required substitutions, which are also major program requirements:

STT 264, 265

PHY 111/101, 112/102, and 113/103, or PHY 240/200, 242/202, 244/204

**Departmental Requirements (minimum)**

73

PSY 105, 110

8
**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**

<table>
<thead>
<tr>
<th>Departmental Requirements</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required courses:</strong></td>
<td></td>
</tr>
<tr>
<td>PSY 105, 110</td>
<td>8</td>
</tr>
<tr>
<td>Three of the following courses:</td>
<td>12</td>
</tr>
<tr>
<td>PSY 311, 321, 331, 341, 351, 361, 371, 391</td>
<td></td>
</tr>
<tr>
<td><strong>Elective Courses:</strong></td>
<td></td>
</tr>
<tr>
<td>Electives in Psychology (200–400 level)</td>
<td>16</td>
</tr>
</tbody>
</table>

A grade point average of at least 2.0 must be attained in all minor courses. Courses cross-listed with the student's major department cannot be included in the minor.
The Lake Campus

The Wright State University–Lake Campus was originally 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, and the Offices of the Dean and Assistant Deans. Counseling, academic advising, testing, and career placement are all found in the Counseling/Testing Center on the second floor. A receptionist is available during business hours to answer questions, set up appointments with the freshman 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.

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
For applications for the various types of financial aid, students should contact the staff at the Lake Campus. The Lake Campus has established a short-term loan fund to help students with emergencies. To qualify, students must have at least a 2.0 cumulative grade point average, have attended Wright State before the loan request, and have a cosigner.

Counseling and Testing
Professional counseling is available 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; counseling for personal problems; and aid in developing desirable personal traits such as getting along with others, assertiveness, and self-discipline. 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 free 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. The academic advisor recommends that students plan their quarterly schedules according to their chosen career objective so that they will have the necessary credit hours in the appropriate classes to obtain their degrees.

Incoming freshmen students are assigned to the freshman academic advisor for advising, and sophomores are assigned to a faculty member.

Tutoring
Lake Campus makes every effort to help students who experience academic difficulty. In addition to counseling to improve study skills, special tutoring in English, reading, and mathematics is available.

Learning Resource Center
The Learning Resource Center maintains computer software packages and audiovisual materials that allow students to improve basic skills and give advanced students a means to progress more rapidly in certain subjects or skills. The center also provides services such as tutoring and independent or individualized study in conjunction with another department or through the Learning Resource Center itself. These services are free to any Lake Campus student. Such services may include test proctoring, counseling, tutoring, and note taking. Students with disabilities are encouraged to contact the Learning Resource Center for supplemental services.
Job Placement

The Lake Campus offers a job placement service to help graduates locate suitable employment. Employers occasionally contact Lake Campus for part-time help. In each case, the campus makes an effort to refer qualified students who desire employment to support their educational needs.

Library

A vital part of the Lake Campus is the library. In addition to its own collections, the Lake Campus Library has access through interlibrary loan to any book, audiovisual item, or journal available at the Dayton campus of Wright State University and other universities in the region.

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.

Child Care

A child care partnership has been formed with the Auglaize/Mercer YMCA, providing convenient, on-campus child care services.

Student Organizations and Activities

Student Senate

The Student Senate is the most important student organization at Lake Campus. Members are elected by the student body and represent the students in matters of student concern. Any Lake Campus student is eligible to run for the Student Senate. Senators take an active part in all areas of campus government at Lake Campus. The Student Senate sends representatives to the Lake Campus Faculty Senate, where they serve on committees such as Academic Affairs and Student Petitions. The Student Senate also sends a delegate to the WSU-Dayton Academic Council, providing a voice in university concerns.

The College Community Arts Council

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 Program

The student athletic program includes men’s and women’s basketball, golf, and women’s volleyball. The Lake Campus Lakers play an independent schedule, primarily with other regional two-year campuses. Home basketball games are played at the YMCA on campus.

Society of Manufacturing Engineers Student Chapter

Society of Manufacturing Engineers (SME) is an international professional society that provides many services such as programs, publications, workshops, conferences, and expositions. Several activities and events are planned each year by the SME Student Chapter at the Lake Campus. These events and activities are free to SME members. Several scholarships are provided annually to SME members by the chapter.

Business Professionals of America

The Business Professionals of America 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 enrolled in business office education programs who are interested in developing personal, leadership, and office skills.

Academic Programs

The academic programs of the Lake Campus lead to associate degrees in a number of fields. Programs leading to the Associate of Arts or the Associate of Science degrees serve as prebaccalaureate programs in nearly all areas of the regular Wright State curriculum. Students can tailor their studies to provide the background required for transfer to a bachelor’s degree program at Wright State or another four-year institution. Brief descriptions of programs in both the academic and technical areas follow.
### Biological Sciences

The offerings for an associate degree in biological sciences are 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 Arts Degree

**Freshman Year**

<table>
<thead>
<tr>
<th>First Quarter</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 112</td>
<td>4</td>
</tr>
<tr>
<td>ENG 101</td>
<td>4</td>
</tr>
<tr>
<td>HST 101</td>
<td>3</td>
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<table>
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<tbody>
<tr>
<td>BIO 114</td>
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</tr>
<tr>
<td>ENG 102</td>
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<table>
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<tbody>
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<td>MTH 105</td>
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**Sophomore Year**

<table>
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<tbody>
<tr>
<td>BIO 252</td>
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<tr>
<td>PLS 200</td>
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<tr>
<td>Fine Arts</td>
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<table>
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<tbody>
<tr>
<td>BIO 256</td>
<td>5</td>
</tr>
<tr>
<td>SOC 200</td>
<td>3</td>
</tr>
<tr>
<td>Great Books</td>
<td>3</td>
</tr>
<tr>
<td>PSY 105</td>
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<table>
<thead>
<tr>
<th>Sixth Quarter</th>
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</tr>
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<tbody>
<tr>
<td>BIO 253, 254, or 255</td>
<td>5</td>
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<tr>
<td>Comp. Studies</td>
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<tr>
<td>EC 200</td>
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<td>Regional Studies</td>
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</table>

**Total Hours Required for Degree** 90

*These courses are applicable to the baccalaureate program with special conditions. TMG 201 is accepted after the student earns a "C" grade or better in MGT 302, Introduction to Organizational Behavior, which is required of all business majors. TMK 201 and TMK 202 are accepted after the student earns a "C" grade or better in either MKT 416, Product Management, or MKT 418, Price Management. TAD 232 is accepted after the student earns a "C" grade or better in either LAW 360, Legal Aspects of Business Organization, or LAW 370, Legal Aspects of Commercial Transactions.

### Business and Administration

The Associate of Science degree in business and administration is designed to prepare students to pursue a bachelor's degree in business with majors in accountancy, business 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 in Business Degree

**Freshman Year**

<table>
<thead>
<tr>
<th>First Quarter</th>
<th>17–19</th>
</tr>
</thead>
<tbody>
<tr>
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<td>HST 101</td>
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<tr>
<td>MTH 128 or 129</td>
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<td>EC 201</td>
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<table>
<thead>
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</thead>
<tbody>
<tr>
<td>CHM 121</td>
<td>5</td>
</tr>
<tr>
<td>MTH 229</td>
<td>5</td>
</tr>
<tr>
<td>ENG 101</td>
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</tr>
<tr>
<td>HST 101</td>
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<table>
<thead>
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<th>Third Quarter</th>
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<tbody>
<tr>
<td>CHM 122</td>
<td>5</td>
</tr>
<tr>
<td>MTH 230</td>
<td>5</td>
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<td>ENG 102</td>
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<td>HST 102</td>
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<table>
<thead>
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<tbody>
<tr>
<td>CHM 123</td>
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</tr>
<tr>
<td>MTH 231</td>
<td>5</td>
</tr>
<tr>
<td>HST 103</td>
<td>3</td>
</tr>
<tr>
<td>Great Books</td>
<td>3</td>
</tr>
<tr>
<td>Comp. Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

### Chemistry

Students who pursue the Associate of Arts degree in chemistry may satisfy the baccalaureate degree foreign language requirement with two years of study in any foreign language or one year each of two languages. The program is flexible enough to allow extensive course work in other areas of science, business, or the arts.

#### Requirements for the Associate of Arts Degree

**Freshman Year**

<table>
<thead>
<tr>
<th>First Quarter</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>ENG 101</td>
<td>4</td>
</tr>
<tr>
<td>HST 101</td>
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</table>

<table>
<thead>
<tr>
<th>Second Quarter</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 122</td>
<td>5</td>
</tr>
<tr>
<td>MTH 230</td>
<td>5</td>
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<tr>
<td>ENG 102</td>
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<td>HST 102</td>
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<table>
<thead>
<tr>
<th>Third Quarter</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CHM 123</td>
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</tr>
<tr>
<td>MTH 231</td>
<td>5</td>
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<tr>
<td>HST 103</td>
<td>3</td>
</tr>
<tr>
<td>Great Books</td>
<td>3</td>
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<tr>
<td>Comp. Studies</td>
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</table>
Sophomore Year

Fourth Quarter

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CHM 211</td>
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</tr>
<tr>
<td>CHM 215</td>
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</tr>
<tr>
<td>SOC 200</td>
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Fifth Quarter

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>CHM 212</td>
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</tr>
<tr>
<td>CHM 216</td>
<td>2</td>
</tr>
<tr>
<td>PSY 105</td>
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Sixth Quarter

<table>
<thead>
<tr>
<th>Course</th>
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<td>CHM 213</td>
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<tr>
<td>CHM 217</td>
<td>2</td>
</tr>
<tr>
<td>EC 200</td>
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</tbody>
</table>

Total Hours Required for Degree 105

Communication

Communication involves people and includes a variety of methods for sending, receiving, and evaluating what individuals do and say. Good verbal and written skills are required to solve problems and make decisions in personal relationships, the public forum, mass communication, government, and business. Communication is the most important tool for informing and persuading. A communication specialist will find a number of careers available in the public and private sectors of society.

Requirements for the Associate of Arts Degree

Freshman Year

First Quarter

<table>
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<tr>
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<th>Credit Hours</th>
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<td>COM 101</td>
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Second Quarter

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<td>HST 102</td>
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<tr>
<td>MTH 105</td>
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Third Quarter

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>HST 103</td>
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<tr>
<td>COM 102</td>
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<tr>
<td>COM 141</td>
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Sophomore Year

Fourth Quarter

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<td>COM 111</td>
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Fifth Quarter

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<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>COM 345</td>
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<tr>
<td>PSY 105</td>
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Education

General education and Phase I requirements can be fulfilled at the Lake Campus. In Phase I, the student's role is that of an active participant rather than a passive listener and notetaker.

Education—Elementary and Special Education K–12

Freshman Year

First Quarter

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
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Second Quarter

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<thead>
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<th>Course</th>
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</thead>
<tbody>
<tr>
<td>ENG 102</td>
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<tr>
<td>HST 102</td>
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</tr>
<tr>
<td>COM 103</td>
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Third Quarter

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
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<tr>
<td>PSY 105</td>
<td>4</td>
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<td>CST 240</td>
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Sophomore Year

Fourth Quarter

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<th>Course</th>
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<td>ED 216</td>
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<td>ED 221</td>
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Fifth Quarter

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<td>ED 242</td>
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<tr>
<td>SOC 200</td>
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Sixth Quarter

<table>
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<td>ED 243</td>
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<tr>
<td>HST 212</td>
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Total Hours Required 100

Requirements to be admitted to Teacher Education classes:
1. Completion of 45 credit hours.
2. Have an overall GPA of at least 2.5.
3. Passing scores on Pre-Professional Skills Test (PPST).

Education—Secondary

Freshman Year

First Quarter

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<tr>
<td>ENG 101</td>
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Second Quarter

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<th>Course</th>
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<td>ENG 102</td>
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<td>HST 102</td>
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<td>COM 103</td>
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Third Quarter

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<th>Course</th>
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<tbody>
<tr>
<td>HST 103</td>
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<tr>
<td>PSY 105</td>
<td>4</td>
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<td>CST 240</td>
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Fourth Quarter

<table>
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<tbody>
<tr>
<td>ED 214</td>
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<tr>
<td>ED 216</td>
<td>3</td>
</tr>
<tr>
<td>ED 221</td>
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Fifth Quarter

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>ED 218</td>
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<td>ED 242</td>
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</tr>
<tr>
<td>SOC 200</td>
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Sixth Quarter

<table>
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<tr>
<th>Course</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ED 220</td>
<td>3</td>
</tr>
<tr>
<td>ED 243</td>
<td>3</td>
</tr>
<tr>
<td>HST 212</td>
<td>3</td>
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</tbody>
</table>

Total Hours Required 100
Second Quarter 18-19
ENG 102 4 Science II 4
HST 102 3 PSY 105 4
Maj. Teach. Field 3 4

Third Quarter 16-18
HST 103 3 Comp. Studies 3
Science III 4 Maj. Teach. Field 6-8

Sophomore Year
Fourth Quarter 16
ED 214 3 COM 101 3
ED 216 3 Regional Studies 3
ED 221 1 Maj. Teach. Field 3
Fifth Quarter 16
ED 218 3 SOC 200 3
ED 223 1 Fine Arts 3
PLS 200 3 Maj. Teach. Field 3
Sixth Quarter 15
ED 220 3 Great Books 3
EC 200 3 EDT 280 3
Maj. Teach. Field 3

Total Hours Required 95-98
Requirements to be admitted to Teacher Education classes:
1. Completion of 45 credit hours.
2. Have an overall GPA of at least 2.5.
3. Passing scores on Pre-Professional Skills Test (PPST).

English
The Associate of Arts degree in English prepares students to pursue a baccalaureate degree. At the Lake Campus, students may follow either of these two options. These programs are designed to provide a well-rounded, balanced curriculum and the opportunity for systematic study of a major humanistic discipline. Students who train in English often complement their study with electives that lead to careers in education, business, journalism, and government.

English—Professional Writing Emphasis

Freshman Year
First Quarter 15
ENG 101 4 Science I 4
HST 101 3 CS 205 4
Second Quarter 15
ENG 102 4 Science II 4
HST 102 3 PSY 105 4
Third Quarter 14
HST 103 3 ENG 330 4
PLS 200 3 Science III 4

Sophomore Year
Fourth Quarter 15
ENG 204 3 Regional Studies 3
SOC 200 3 EC 201 3
ENG 240 3

Fifth Quarter 16
ENG 347 3 MTH 105 3
ENG 333 3 Fine Arts 3
ENG 399 1 EC 202 3

Sixth Quarter 16
ENG 400 3 EC 203 3
ENG 495 4 CST 230 3
ENG 402 3

Total Hours Required for Degree 91

English—Literature Emphasis

Freshman Year
First Quarter 14
ENG 101 4 MTH 105 3
HST 101 3 Science I 4
Second Quarter 15
ENG 102 4 HST 102 3
ENG 250 4 Science II 4
Elective 4
Third Quarter 14
ENG 251 4 PLS 200 3
HST 103 3 Science III 4

Sophomore Year
Fourth Quarter 15
ENG 204 3 SOC 200 3
ENG 291 3 Regional Studies 3
ENG 343 3

Fifth Quarter 16
ENG 212 3 PSY 105 4
ENG 203 3 Elective 3
Fine Arts 3

Sixth Quarter 16
ENG 350 4 EC 200 3
CST 230 3 Electives 6

Total Hours Required for Degree 90

Geography
The Associate of Arts curriculum in geography prepares students to pursue a baccalaureate degree in special areas of study such as physical geography, resource management, urban-economic geography, and urban planning. Students are encouraged to develop an understanding and awareness of the spatial organization and distribution of phenomena in the physical and human world.

Requirements for the Associate of Arts Degree

Freshman Year
First Quarter 15
ENG 101 4 GL 105 3
### Sophomore Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Codes</th>
<th>Credits</th>
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</tr>
<tr>
<td>Third Quarter</td>
<td>HST 103, MTH 105</td>
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</tr>
<tr>
<td>Fourth Quarter</td>
<td>GEO 201, SOC 200, Elective</td>
<td>16</td>
</tr>
<tr>
<td>Fifth Quarter</td>
<td>GEO 202, PLS 200</td>
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</tr>
<tr>
<td>Sixth Quarter</td>
<td>GEO 203, EC 200</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total Hours Required for Degree:** 90

### Psychology

Students may choose to follow an Associate of Science degree program in psychology to prepare themselves for further baccalaureate study. It is designed to provide a broad introduction to contemporary psychology. The Associate of Science degree is recommended for students planning careers in academics, research, or professional fields.

**Requirements for the Associate of Science Degree**

#### Freshman Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Codes</th>
<th>Credits</th>
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<td>First Quarter</td>
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</tr>
<tr>
<td>Second Quarter</td>
<td>ENG 102, HST 102, Elective</td>
<td>18</td>
</tr>
<tr>
<td>Third Quarter</td>
<td>PLS 200, CS 205</td>
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<tr>
<td>Fourth Quarter</td>
<td>SOC 200, Elective</td>
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</tr>
<tr>
<td>Fifth Quarter</td>
<td>PLS 200, STT 265, Elective</td>
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<tr>
<td>Sixth Quarter</td>
<td>STT 265</td>
<td>13</td>
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</tbody>
</table>

**Total Hours Required for Degree:** 92

### History

The Associate of Arts degree 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**

#### Freshman Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Codes</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Quarter</td>
<td>ENG 101, HST 101</td>
<td>15</td>
</tr>
<tr>
<td>Second Quarter</td>
<td>ENG 102, HST 102, Elective</td>
<td>18</td>
</tr>
<tr>
<td>Third Quarter</td>
<td>HST 103, MTH 105, PSY 105</td>
<td>15</td>
</tr>
<tr>
<td>Fourth Quarter</td>
<td>SOC 200, Elective</td>
<td>16</td>
</tr>
<tr>
<td>Fifth Quarter</td>
<td>PLS 200, STT 265, Elective</td>
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<tr>
<td>Sixth Quarter</td>
<td>STT 265</td>
<td>13</td>
</tr>
</tbody>
</table>

**Total Hours Required for Degree:** 92

### Social Work Assistant

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. The program 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 services, public schools, hospital, mental health centers, and probation/parole boards.

Requirements for the Associate of Arts Degree

Freshman Year

First Quarter
- ENG 101 4
- HST 101 3
- Elective 3
Second Quarter
- ENG 102 4
- HST 102 3
- Elective 3
Third Quarter
- HST 103 3
- MTH 105 4
- Elective 3

Sophomore Year

Fourth Quarter
- SOC 200 3
- SW 270 4
- RHB 201 4
Fifth Quarter
- PLS 200 3
- CS 205 4
- STT 264 4
Sixth Quarter
- CST 240 3
- EC 200 3

Total Hours Required for Degree 94

Technical Associate Degree Programs:

Associate of Applied Business (A.A.B)

Associate of Applied Science (A.A.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.

Accounting Technology

Major No. 191

A major in accounting technology prepares the graduate to take an immediate position in the accounting field. This program concentrates on accounting principles used in business enterprises, including preparation and analysis of financial statements and reports for managers and other users. The required financial, cost, and tax accounting courses can be further supplemented with electives such as banking and insurance, which allow the student to specialize in a particular area of accounting. Basic instruction in
data processing, English, business, mathematics, and economics gives students an understanding of the wide scope of business operations.

Requirements for the Associate of Applied Business Degree

Freshman Year

First Quarter
ACC 201 3 MTH 127 3
EC 201 3 Gen Ed Elective 3
ENG 101 4

Second Quarter
ACC 202 3 MTH 129 3
EC 202 3 CS 205 4
ENG 102 4

Third Quarter
ACC 203 3 TDP 210 3
EC 203 3 Tech Elective 3
ENG 330 4

Sophomore Year

Fourth Quarter
TAC 210 3 MS 201 3
TAC 225 3 PSY 105 4
TAC 201 3

Fifth Quarter
TAC 211 3 TFI 205 3
TAC 220 3 Gen Ed Elective 3
TAC 226 3 Tech Elective 3

Sixth Quarter
TAC 221 3 TAD 232 3
TAC 224 3 TMG 280 3
TAC 280 3 Tech Elective 3

Total Hours Required for Degree 101

Business Management Technology

Major No. 102

Management technology is designed to qualify graduates for middle-level management positions in business, industry, or government. Courses structured to teach knowledge and skills in leadership, human relations, economics, personnel, marketing management, communication, finance, and accounting offer students the diversity of information essential for all levels of management. Technical electives give students the opportunity to tailor their degrees toward a specific management field.

Requirements for the Associate of Applied Business Degree

Freshman Year

First Quarter
TAC 201 3 ENG 101 4
ACC 201 3 MTH 127 3
EC 201 3

Second Quarter
TAC 210 3 ENG 102 4
ACC 202 3 MTH 129 3
EC 202 3

Third Quarter
TAC 280 3 CS 205 4
ACC 203 3 Tech Elective 3
EC 203 3

Sophomore Year

Fourth Quarter
TAC 270 3 MS 201 3
TMK 201 3 Gen Ed Electives 6
TDP 210 3

Fifth Quarter
TAC 202 3 PSY 105 4
TMK 202 3 Tech Elective 3
TFI 205 3

Sixth Quarter
MGT 200 3 TAD 232 3
TMG 290 4 Tech Elective 3
ENG 330 4

Total Hours Required for Degree 101

Mechanical Engineering Technology

Major No. 406

The objective of the industrial major is to provide industry with graduates who have a knowledgeable and practical grasp of the skills needed in industry today. Courses provide a foundation in the efficient and safe use of people, materials, and machines needed to produce goods and services along with sufficient computer-aided manufacturing skills. Adequate training in the skills of writing, communication, mathematics, physics, management, the humanities, and social sciences helps graduates relate effectively in their work as technologists, and specialize and expand their knowledge by keeping abreast of today’s ever-changing state-of-the-art technology.
## Requirements for the Associate of Applied Science Degree

### Freshman Year

<table>
<thead>
<tr>
<th>Quarter</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>First Quarter</td>
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<td>Second Quarter</td>
<td>TEG 150 3 TEG 141 2 TMT 114 4 TEG 146 4 ENG 102 4</td>
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<tr>
<td>Third Quarter</td>
<td>TEG 115 4 TMG 201 3 TEG 151 3 PHY 111 4 PHY 101 1 Gen. Ed. Elective 3</td>
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### Sophomore Year

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<tr>
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<td>17</td>
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<tr>
<td>Fifth Quarter</td>
<td>TEG 153 4 TEG 209 3 TEG 202 4 ENG 333 3 TEG 218 3</td>
<td>17</td>
</tr>
<tr>
<td>Sixth Quarter</td>
<td>TEG 203 4 PSY 105 4 TEG 219 3 COM Elective 3 TEG 221 4</td>
<td>18</td>
</tr>
</tbody>
</table>

### Total Hours Required for Degree

105

## Office Information Systems

### Administrative Assistant Option—Major No. 192

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.

### Requirements for the Associate of Applied Business Degree

#### Freshman Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Courses</th>
<th>Credits</th>
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<tr>
<td>First Quarter</td>
<td>TOA 230 3 TOA 101 1 OA 211 3 TOA 235 3</td>
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<td>Second Quarter</td>
<td>CS 205 4 TOA 102 1 OA 212 3 ACC 201 3</td>
<td>18</td>
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<tr>
<td>Third Quarter</td>
<td>TOA 255 3 TOA 103 1 OA 213 3 TOA 115 3</td>
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#### Second Quarter

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<td>TEG 145 4 TMT 113 5 ENG 101 4 CS 205 4</td>
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#### Third Quarter

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<tbody>
<tr>
<td>TEG 141 2 TEG 150 3 TMT 114 4 TEG 146 4 ENG 152 4</td>
<td>17</td>
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</table>

#### Total Hours Required for Degree

104
Sophomore Year

Fourth Quarter  
OA 221  3  TOA 104  1  
TOA 224  3  TOA 241  3  
OA 201  3  EC 200  3  

Fifth Quarter  
TOA 105  1  TOA 202  3  
TOA 225  3  PSY 105  4  
TOA 233  3  Gen Ed Elective  3  

Sixth Quarter  
TOA 106  1  TOA 234  3  
TOA 226  3  OA 203  3  
TOA 231  3  TAD 232  3  

Total Hours Required for Degree  100

Legal Administrative Assistant Option—Major No. 192

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 accounting, business administration, and economics. Electives permit students to broaden knowledge in areas of career specialty or personal interest.

Requirements for the Associate of Applied Business Degree

Freshman Year

First Quarter  
TOA 230  3  TOA 104  1  
OA 211  3  TOA 235  3  
ENG 101  4  TOA 251  3  

Second Quarter  
CS 205  4  TOA 102  1  
OA 212  3  ACC 201  3  
ENG 102  4  COM 203  3  

Third Quarter  
TDP 210  3  TOA 103  1  
OA 213  3  TOA 115  3  
OA 220  3  TOA 237  3  

Sophomore Year

Fourth Quarter  
OA 221  3  TOA 104  1  
TOA 224  3  TOA 241  3  
OA 201  3  EC 200  3  

Fifth Quarter  
TOA 105  1  OA 202  3

Medical Administrative Assistant Option—Major No. 192

In addition to furnishing classroom techniques for perfecting basic office skills such as typing, shorthand, composition, and the use of office machines, the medical administrative assistant technology program incorporates fundamental courses in administration, accounting, economics, and data processing, while giving students exacting instruction in medical terminology, medical office procedure, biology, and psychology. Students completing this program are prepared to fill medical administrative assistant positions.

Requirements for the Associate of Applied Business Degree

Freshman Year

First Quarter  
TOA 230  3  TOA 104  1  
OA 211  3  TOA 235  3  
ENG 101  4  TOA 252  3  

Second Quarter  
CS 205  4  TOA 102  1  
OA 212  3  ACC 201  3  
ENG 102  4  COM 203  3  

Third Quarter  
TOA 255  3  TOA 103  1  
OA 213  3  TOA 115  3  
OA 220  3  TOA 237  3  

Sophomore Year

Fourth Quarter  
OA 221  3  TOA 104  1  
TOA 224  3  TOA 241  3  
OA 201  3  BIO 105  4  

Fifth Quarter  
TOA 105  1  OA 202  3  
TOA 225  3  EC 200  3  
TOA 233  3  PSY 105  4  

Sixth Quarter  
TOA 235  3  Gen Ed Elective  3  
TOA 234  3  Gen Ed Elective  3  

Total Hours Required for Degree  100
Word Processing Specialist Option—
Major No. 192

Today's technology is requiring more emphasis on the office applications using word/information processing software and the human aspects of word/information processing. The word processing specialist program will prepare students to meet this demand through a study of the document cycle as it relates to the electronic office applications of word/information processors. It explores the change from the traditional office to one using the word/information processing concepts.

Requirements for the Associate of Applied Business Degree

Freshman Year

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<tr>
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Sophomore Year

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<td>TOA 233</td>
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<td>TOA 106</td>
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<td>TOA 223</td>
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<td>TOA 226</td>
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Total Hours Required for Degree | 100

Office Information Systems

The one-year office information systems certificate program encompasses all of the necessary skills needed for entry-level administrative assistant positions while giving students a well-rounded background in the office field. Students completing the one-year program will be prepared to meet the challenges of today's office world.

Requirements for the One-Year Certificate

Freshman Year

<table>
<thead>
<tr>
<th>First Quarter</th>
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<tbody>
<tr>
<td>OA 211</td>
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<td>TOA 224</td>
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<td>OA 212</td>
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<td>OA 221</td>
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<td>TOA 226</td>
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</table>

Total Hours Required for Certificate | 50

Associate of Technical Study

Major No. 404

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 requirements must each account for a minimum of 21 credit hours of the program total or 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 are requiring a broader base exposure of the technologies such as technicians, programmers, and designers. 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, 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

General Education Requirements Minimum 21
ENGL 101, 102, and either 330 or 333 (all required)
COM 101, 102, 111, and 141 (choose one) 3
General Education Electives 7
(From disciplines listed below)
Communication (COM) Philosophy (PHL)
Comparative Political Science (PLS)
Studies (CST) Psychology (PSY)
Economics (EC) Regional Studies (RST)
English (ENG) Religion (REL)
Geography (GEO) Sociology (SOC)
History (HST) Theatre (TH)
Music (MUS)

Basic Requirements Minimum 21
These are courses that are closely related to the technical concentration area. Other course options are available with advisor approval.
Math Electives: Any math course except 12
MTH 102 and MTH 105
Natural Science Elective 4 or 5
Computer Science Elective 4

Technological Requirements Minimum 45
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. The technical programs are: accounting technology, business management technology, engineering technology, and office information systems.
Elective Minimum 3

Total Hours Required Minimum 90

Saturday Certificate Programs

Certificate in Management

The Certificate in Management is an 18-credit hour, three-quarter 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. All courses meet on Saturdays and may be applied toward an associate degree.

Fall
ACC 201-3 Accounting Concepts and Principles I
MGT 100-3 The World of Business and Administration

Winter
MGT 200-3 Elements of Management and Supervision
COM 141-3 Small-Group Communication

Spring
TMG 201-3 Fundamentals of Management
EC 201-3 Principles of Economics

Advanced Certificate in Management

The Advanced Certificate in Management is a 16-credit hour, three-quarter 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 on Saturdays and may be applied toward an associate degree.

Fall
TMG 270-3 Production Management
TMK 201-3 Basic Marketing I

Winter
COM 203-3 Business Communication
TMG 210-3 Personnel Management

Spring
CS 205-4 Computer Literacy and Office Automation

Certificate in Desktop Publishing

The Certificate in Desktop Publishing is a 9-credit hour, three-quarter sequence of 3 courses designed for the person in the office wishing to learn or implement desktop publishing skills.

Fall
TOA 241-3 Beginning Desktop Publishing

Winter
TOA 242-3 Advanced Desktop Publishing

Spring
TOA 247-3 Desktop Publishing Applications

Certificate in Word Processing

The Certificate in Word Processing is a 9-credit hour, three-quarter sequence of courses meeting on Saturdays designed for the person in the office wishing to upgrade or to implement word processing skills in an office environment and to train those desiring to learn the skill of word processing.

Fall
OA 220-3 Introduction to Word/Information Processing
Certificate in Quality Assurance

The Certificate in Quality Assurance is an 18-credit hour, three-quarter sequence of courses designed to provide a thorough coverage of the fundamental methods of quality control. All courses meet on Saturdays and may be applied toward an associate degree.

Fall
- MS 201-3 Introduction to Data Analysis
- TEG 225-3 Work Measurement

Winter
- MS 202-3 Introduction to Statistical Inference
- TEG 218-3 Facility Design

Spring
- TMG 201-3 Fundamentals of Management
- TEG 131-3 Statistical Process Control

Certificate in CAD/CAM

The Certificate in "CAD/CAM" is an 18-credit hour, three-quarter sequence of courses designed to provide a thorough understanding of how the computer-aided design and manufacturing process functions in industry. The certificate program covers the fundamental principles and methods used in designing a product with AutoCAD. Additionally, the student will use SmartCAM to produce machinable CNC code and manufacture actual products designed in class. The certificate is designed for individuals who have a thorough understanding of drafting principles, but no CAD experience is assumed. In order to better serve the individuals enrolling in this program, a maximum of 12 students has been set. All courses meet on Saturdays and may be applied toward an associate degree.

Fall
- TEG 297-3 Fundamentals of CAD I
- TEG 297-3 Beginning Computer-Aided Manufacturing

Winter
- TEG 297-3 Fundamentals of CAD II
- TEG 297-3 CNC Programming I

Spring
- TEG 297-3 Fundamentals of CAD III
- TEG 297-3 CNC Programming II

Certificate in Microcomputer Applications

The Certificate in Microcomputer Applications is a 12-credit hour, 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.

Fall
- CS 205-4 Computer Literacy and Office Automation

Winter
- CS 206-4 Computer Software Productivity Tools

Spring
- CS 207-4 Advanced Office Productivity II
A list of course abbreviations and an explanation of the course numbering system can be found on pages 8 and 9. 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

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

200-3 Individual Income Tax Preparation
Introduction to the basic concepts of income deductions, credits, and exemptions. Calculation of taxable income and preparation of the individual income tax returns and selected schedules.

201-3, 202-3, 203-3 Accounting Concepts and Principles I, II, III
Introduction to accounting for business enterprises. Includes preparation and analysis of financial statements and reports for managers and other users. Prerequisite: for 202, ACC 201; for 203, ACC 202.

Advanced Courses

All of the following courses require junior standing in addition to the listed prerequisites.

300-3 Accounting for Managerial Analysis
Analysis and interpretation of accounting information for management in the functions of planning, control, and decision making. For non-majors only. Prerequisite: ACC 203.

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: for 304, ACC 203, CS 205; for 305, ACC 304, CS 205; for 306, ACC 305

321-3 Management Accounting I
Concepts, techniques, and detailed accounting procedures for the manufacturing firm. Prerequisite: ACC 203, CS 205.

322-3 Management Accounting II
Application of cost accounting concepts and techniques to complex problems in manufacturing accounting and other areas including distribution, research, and development costs. Prerequisite: ACC 321.

328-3 Accounting Systems I
Fundamental concepts of information, communication, and systems that form the framework for the design of data processing and accounting systems. Prerequisite: ACC 321, MIS 300 or 322.

407-3 Financial Accounting IV
Comprehensive study of business combinations, consolidated financial statements, and accounting for governmental entities. Prerequisite: ACC 306.

408-3 Financial Accounting V
Topics include international accounting, partnership, financial reporting of changing prices, statement analysis, full disclosure, and industry segments. Prerequisite: ACC 306.

412-3 Accounting Systems II
Application of accounting systems in handling principal business transactions and situations. Prerequisite: ACC 328.

421-3 Auditing I
Introduction to principles, standards, and procedures involved in conducting an audit by the independent accountant. Prerequisite: ACC 306, 328.

422-3 Auditing II
Application of auditing techniques with emphasis on the audit report and other special reporting problems. Consideration of management services and the auditor's responsibility to third parties. Prerequisite: ACC 421.

431-3 Governmental Accounting
Application of accounting principles to fund accounting for government units with consideration given to institutional accounting. Prerequisite: ACC 305, 321.

441-3 Income Tax Accounting I
History, theory, and basic tax structure pertaining to individuals and business. Prerequisite: ACC 203.

442-3 Income Tax Accounting II
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.

443-3 Individual Tax Planning
Focuses on advanced concepts, techniques, and strategies for the individual taxpayer. An introduction to tax research sources is also provided. Prerequisite: ACC 441.

451-3 International Accounting
Introduction to the international aspects of various accounting topics—financial and managerial accounting, social accounting, inflation accounting, auditing, and taxation. Prerequisite: ACC 203 or equivalent.

477-1 to 3 Special Topics in Accounting
Topics and prerequisites vary.

478-3 Honors: Independent Study in Accountancy
Research in accounting for fulfillment of the Honors Program project requirement.

481-6 Internship in Accounting
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.

498-3 Seminar in Management Accounting
Identification, description, and analysis of the behavioral science and quantitative methods applications for management accounting. Prerequisite: ACC 306, 322.
499-3 Seminar in Financial Accounting
Identification and analysis of contemporary issues and problems in the area of financial accounting. Prerequisite: ACC 406. Pre-corequisite: ACC 421.

Aerospace Science/AES
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

121-1 U.S. Military Forces I

122-1 U.S. Military Forces II

123-1 U.S. Military Forces III

221-1 Development of Aerospace Power I
Explores the development of air power until World War II. Studies center around the development of various concepts of air power employment and on factors that have prompted research and technological change.

222-1 Development of Aerospace Power II
Explores the early development of air power from World War II through the Berlin airlift. Studies center around the development of various concepts of air power employment and on factors that have prompted research and technological change.

223-1 Development of Aerospace Power III
Explores the development of air power from the Korean War until the present. Studies center around the development of various concepts of air power employment and on factors that have prompted research and technological change.

331-3 Aerospace Leadership and Management I
Examines the Air Force manager's world and elements of the job. Examines leadership with emphasis on the insights provided by leadership research. Provides experience in exercising communicative skills necessary for effective management and leadership.

332-3 Aerospace Leadership and Management II
Examines leadership styles and research models. A thorough review of the implications of the styles in improving management techniques is conducted. Planning, organizing, controlling, and management by objectives are studied extensively. Prerequisite: AES 331.

333-3 Aerospace Leadership and Management III
Examines the aspects of management delineating the decision-making process as it relates to the individual and the group. Discusses organizational structure staffing and examines managerial strategy and tactics. Reviews manager's role in dealing with conflict/change. Prerequisite: AES 332.

431-3 National Security Forces in Contemporary American Society I
Analysis of the role and function of the military officer in democratic society, the complex relationships involved in civil-military interactions, and the bureaucratic system for formulating and implementing U.S. defense policy.

432-3 National Security Forces in Contemporary American Society II
Continued analysis of the bureaucratic system for formulating and implementing U.S. defense policy, plus analysis of the impact of the domestic and international systems on U.S. defense policy and strategy. Prerequisite: AES 431.

433-3 National Security Forces in Contemporary American Society III
Analysis of the impact of the domestic and international system on U.S. defense policy and strategy; introduction to the laws of war and military law; and an exposure to initial commissioned service. Prerequisite: AES 432.

Anatomy/ANT
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

201-4 Basic Human Anatomy I
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, 3 hours lab.

202-4 Basic Human Anatomy II
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, 3 hours lab.

320-5 Anatomy of Human Motion
The skeletal, articular, nervous, cardiovascular, and respiratory systems as they pertain to the muscular system are presented. Basic muscle actions are described, sequential muscle actions and other concepts of kinesiology are not discussed. Prerequisite: BIO 105, 107.

488-1 Independent Reading
May be taken for letter grade or pass/unsatisfactory.
Anthropology/ATH

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

200-3 World of Primitive Contemporaries
Survey of the world’s non-Western cultures. Discussions include the various ways contemporary peoples live and the relationship between primitive and contemporary cultures.

241-3 Introduction to Physical Anthropology
An overview of human biology and behavior, including human evolution, primate behavior, and human physical variation.

242-3 Introduction to Archaeology
Introduction to the nature of archaeological data, techniques of archaeological dating, and methods of data collection, analysis, and interpretation.

250-3 Introduction to Cultural and Social Anthropology
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.

300-4 Laboratory in Archaeology
Emphasizes recognition and analysis of archaeological remains from prehistoric and historic sites. Students develop an original analysis of some body of archaeological material. Prerequisite: ATH 242, 369 or permission of instructor.

340-4 Applied Anthropology: An Introduction
Introduces various aspects of applied anthropology as currently used in a variety of behavioral activity fields locally, nationally, and internationally.

341-4 Indians of North America
Survey of selected North American Indian societies, contrasting their modern and aboriginal cultures.

346-4 Anthropology of Religion
(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.

351-4 Fossil Evidence for Human Evolution
History, description, and interpretation of the fossil record for primate evolution with emphasis on human evolution.

352-4 Primate Behavior
Detailed examination of the behavior of nonhuman primates, including monkeys and apes, as it relates to human evolution and behavior.

358-4 Human Variation and Adaptation
Examination of human biological variation focusing on interpopulation variation, environmental adaptation, and the concept of race.

365-4 Archaeology of North America
Detailed examination of the major prehistoric cultures of North America. Emphasis on eastern North American prehistory.

368-4 Archaeological Field Techniques
Classroom and field preparation for archaeological survey and excavations. Prerequisite: ATH 242 or permission of instructor.

369-6 to 12 Field School in Archaeology
Excavation training on prehistoric sites.

392-4 to 4 Readings in Anthropology
May be taken for letter grade or pass/unsatisfactory.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of anthropology. Topics vary.

400-4 Topics in Archaeology
Advanced study of various specialized aspects of archaeology. Classes may be lecture or seminar.

410-4 Special Topics in Cultural Anthropology
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.

446-4 Peoples and Cultures of South Asia
Survey and analysis of cultural diversity and unity in southern Asia, particularly India, Pakistan, Bangladesh, and Sri Lanka.

447-4 Peoples and Cultures of Africa
Survey of the peoples and sociocultural systems of Africa with emphasis on sub-Saharan ecological and biocultural relationships.

448-4 Development of Ethnological Thought
Surveys historical development of ethnological thought and emphasizes theories of social and cultural change.

450-4 Political Institutions in Primitive Societies
(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.

455-4 Biomedical Anthropology
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.

465-4 Seminar in Woodland Archaeology
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.

468-4 Seminar in Archaeological Theory
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.
213-4 Art History I
Introductory course for students majoring in Art History. Traces Western art from prehistoric times to the dawn of the modern era. Prerequisite: ART 211 or permission of instructor.

212-4 Art History II
Survey of Western painting and sculpture from 1150 to 1850. Prerequisite: ART 211 or permission of instructor.

214-3 Visual Art in Western Culture
Survey of visual arts across time, focusing on selected major works of art. Discusses the formal characteristics of art.

208-4 Sculpture I
Introduction to basic processes, materials, and concepts of sculpture.

209-4 Introduction to Color
Introduction to the study of color and its interaction.

206-4 Drawing I
Introduction to materials, techniques, and concepts of drawing.

207-4 Photography I
Introduction to basic processes and concepts in still photography. Emphasis on learning basic skills and techniques. Assignments designed to develop an understanding of light as an expressive element.

475-4 Historical Archaeology
Focuses on the post-European discovery period of America. Archaeological interpretations of colonial, plantation, industrial, frontier, and urban sites and materials are explored in seminars, discussions, and through laboratory analyses of southwest Ohio site collections. Prerequisite: ARTI 242.

492-2 to 4 Independent Research in Anthropology
May be taken for letter grade or pass/unsatisfactory.

Art and Art History/ART

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

All courses in the Department of Art and Art History are offered with a pass/unsatisfactory grade option.

General Education Course

214-3 Visual Art in Western Culture
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.

Departmental Courses

206-4 Drawing I
Introduction to materials, techniques, and concepts of drawing.

207-4 Photography I
Introduction to basic processes and concepts in still photography. Work involves learning basic skills and techniques. Assignments designed to develop an understanding of light as an expressive element.

208-4 Sculpture I
Introduction to basic processes, materials, and concepts of sculpture.

209-4 Introduction to Color
Introduction to the study of the elements and interaction of color.

211-4 Art History I
Survey of 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.

212-4 Art History II
Survey of 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.

213-4 Art History III
Survey of painting and sculpture since 1850. Historical survey of modern painting and sculpture in the Western world. Prerequisite: ART 212 or permission of instructor.

214-3 Visual Art in Western Culture
Survey of visual arts across time, focusing on selected major works of art throughout history. Discusses comparisons across time, basic art media, and the formal characteristics of art.
359-4 Color Photography
Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from the work of students. Topics vary. Prerequisite: ART 258.

367-4 Beginning Printmaking—Intaglio
Exploration of printmaking stressing intaglio methods: etching, engraving, drypoint, aquatint, and lightravels. Use of black-and-white techniques and introduction to color printing. Topics vary. Prerequisite: ART 206, 228 (ART 228 may be taken concurrently) or permission of instructor.

368-4 Beginning Printmaking—Lithography
Introduction to basic lithographic techniques using stone and/or metal plate. Emphasis on black-and-white printing and aesthetic possibilities of the media. Topics vary. Prerequisite: ART 206, 228 (ART 228 may be taken concurrently), or permission of instructor.

369-4 Beginning Printmaking—Screenprinting
Introduction to silkscreening techniques such as stencil cut, photo stencil, and crayon and touche resists. Exploration of aesthetic possibilities of the media. Topics vary. Prerequisite: ART 206, 207, 209 or permission of instructor.

378-4 Sculpture II
Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by students. Titles vary. Course may not be repeated for credit. Prerequisite: ART 208 or permission of instructor.

387-4 Visual Communication I
Introduction and orientation to the visual communication disciplines (graphic design, art direction, and illustration), historically and currently. Prerequisite: ART 206, 207, 228.

388-4 Visual Communication II
Development of understanding and use of typography, typesetting procedures, and techniques. Prerequisite: ART 387.

389-4 Visual Communication III
Creation of images using cultural forms in the solution of visual communication problems. Illustration techniques using drawing, photography, and graphic techniques. Prerequisite: ART 258, 369, 388.

397-4 Introduction to Museology
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, 213 (Previously listed as ART 297.)

400-2 Junior Seminar
Group discussions of contemporary writings in art and critiques of junior work in a peer setting with faculty and visiting artists participating on an informal basis.

401-1 to 4 Independent Study in Art History
Intensive individual work with faculty supervision in art history.

404-1 to 4 Studies in Art History
Provides opportunities to explore problems and approaches to art and art history and includes intermedia and interdisciplinary studies. Prerequisite: ART 213 or permission of instructor.

405-1 to 4 Studies in Art
Provides opportunities to explore problems and approaches to art and includes interdisciplinary and interdisciplinary studies.

409-4 Art Theory and Criticism
Historical surveys and intensive studies of art theory and criticism. Prerequisite: ART 213 or permission of instructor.

410-4 Studies in American Art
General surveys and intensive studies of periods, major movements, and artists of the time. Prerequisite: ART 213 or permission of instructor.

411-4 Studies in Ancient and Classical Art
(Also listed as CLS 340.) General surveys and intensive studies of the period, major movements, and artists of the time.

412-4 Studies in Medieval Art
General surveys and intensive studies of the period, major movements, and artists of the time. Prerequisite: ART 213 or permission of instructor.

413-4 Studies in Renaissance Art
General surveys and intensive studies of the period, major movements, and artists of the time. Prerequisite: ART 214 or permission of instructor.

414-4 Studies in Baroque Art
General surveys and intensive studies of the period, major movements, and artists of the time. Prerequisite: ART 214 or permission of instructor.

415-4 Studies in Nineteenth-Century Art
General surveys and intensive studies of the period, major movements, and artists of the time. Prerequisite: ART 214 or permission of instructor.

416-4 Studies in Twentieth-Century Art
General surveys and intensive studies of the period, major movements, and artists of the time. Prerequisite: ART 214 or permission of instructor.

417-4 Studies in Non-Western Art
General surveys and intensive studies of periods, major movements, and artists in non-Western art. Prerequisite: ART 213 or permission of instructor.

428-4 Advanced Drawing
Exploration of the structure and interrelationships of visual form in drawing, painting, and sculpture. Principal historical modes of drawing examined. Topics vary. Prerequisite: ART 328.

437-4 Advanced Expanded Media
Development of personal concepts and aesthetic expression in media. Emphasis on individualized approach to media problems. Prerequisite: ART 337 or permission of departmental advisor.

448-4 Advanced Painting
Continued emphasis on pictorial organization with increased attention to the personal imagery of students. Prerequisite: ART 349 or permission of instructor.

458-4 Advanced Black-and-White Photography
Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to problems that arise from the work of students. Topics vary. Prerequisite: ART 358 or permission of instructor.
467-4 Advanced Printmaking—Intaglio
Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary. Prerequisite: ART 367 or permission of instructor.

468-4 Advanced Printmaking—Lithography
Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary. Prerequisite: ART 368 or permission of instructor.

469-4 Advanced Printmaking—Screenprinting
Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary. Prerequisite: ART 369 or permission of instructor.

478-4 Advanced Sculpture
Further development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students. Titles vary. Prerequisite: ART 378.

497-4 Advanced Museology
Classroom and supervised practical work in art gallery and museum management. Prerequisite: ART 397 or permission of instructor.

Art Education/AED
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

214-4 Foundations of Art Education
Introductory course involving ideas and approaches to educating for aesthetic awareness, providing opportunities for the aesthetic development of students through experiences with conventional and unconventional art media and an introduction to theories of art.

224-2 Ceramics I
Rudiments of ceramic design; methods of forming, wheel throwing, firing, glazing, and decoration. Emphasizes ceramic techniques and procedures applicable to public school art programs.

225-4 Ceramics II
Advanced ceramic design, forming, wheel throwing, glaze calculations, and decoration. Includes a high degree of experimental involvement. Emphasizes advanced ceramic techniques and procedures applicable to public school art programs. Prerequisite: AED 224 or permission of instructor.

324-4 Enameling I
Introduction to basic methods and processes of applying and fusing ground glass to metals. Emphasizes enameling techniques and procedures for public school art programs. Prerequisite: AED 214 or permission of instructor.

325-4 Enameling II
Advanced study of special methods and techniques of applying and fusing ground glass to metals. Emphasizes advanced enameling techniques and procedures for public school art programs. Prerequisite: AED 324 or permission of instructor.

370-1 to 3 Independent Study
Planned readings, project, participation/observation clinic experiences, or other appropriate study on an independent basis.

423-4, 424-4, 425-4 Fibers and Fabrics
423: introduction to fibers and fabrics as art forms. Basic techniques in various materials such as weaving, wrapping, twining, rya, batik, and other approaches appropriate to any school art program. 424: use of loom and other hand techniques in weaving. Experimental approaches in completion of original ideas. Emphasizes techniques for public school art programs. 425: methods of silkscreen as it may be used in public school art programs. Analysis of textile design in contemporary living. Prerequisite: AED 214 or permission of instructor.

426-4 Creative Stitchery
Various methods and procedures of working with stitchery and appliqued forms; work with flat and stitched fabrics for wall hangings and other fabric art forms. Emphasizes stitchery and fabric techniques for public school art programs. Prerequisite: AED 214 or permission of instructor.

428-4 Pupil Expression through Mural Painting
Development of individual creative expression through mural painting; application of mural technique to public school art programs.

429-1 to 6 Workshop in Art Education
Problems, processes, and techniques for development of art activities in elementary and secondary schools. Development of craft processes concerned with suitable projects for classroom work and public art education curricula.

430-3 Independent Reading in Art Education
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.

431-4 Art and the Child
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. Pre- or corequisite: ED 327 or permission of instructor.

432-3 Art and the Adolescent
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 permission of instructor.

436-1 to 4, 437-1 to 4 Minor Problems in Art Education
Individual problems in specified areas for the purpose of intense and concentrated work in one or more media; the development of a proficiency in one or more craft areas.
Art Methods for Schools
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 214, 216, 218, 220; or equivalent. Corequisite: ED 323.

Workshop/Field Trip in Art Education
Survey of visual and performing arts. Visits to museums, galleries, and commercial sources of contemporary design and architecture. Written and/or visual evaluation of places visited required.

Art Appreciation and Criticism in the School
Understanding influences and interaction of the creative arts in our present culture. Emphasis on importance of developing appreciation in the public school. Study of processes inherent in aesthetic criticism and their relationship to teaching in the arts.

Advanced Problems in Art Education
Concentrated and advanced work with specific art media such as ceramics, metals, and fabrics. Emphasis on creative work and methods of teaching advanced procedures applicable to the public school art room.

Art and the Special Child
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. Prerequisite: AED 431 or equivalent; or permission of instructor. (Previously listed as AT 444.)

Art Therapy/AT
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Independent Study in Art Therapy
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.

Workshop in Art Therapy
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.

Aviation/AVI
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Aviation Career Institute
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.

Private Pilot Ground Education
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.

Private Pilot Flight Training I
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. Prerequisite: AVI 201 or FAA written exam.

Private Pilot Flight Training II
Seventeen hours of flight training plus one hour flight check. Meets requirements for private pilot's certificate. Graded pass/unsatisfactory. Prerequisite: AVI 202.

Meteorology in Aviation
Meteorology theory and pilot services available for the instrument-rated pilot. Meets FAA requirements.

Instrument Ground Training
Altitude instrument interpretation and aircraft performance; approaches and procedures; and IFR regulations and flight training. Meets FAA requirements. Prerequisite: AVI 301.

Instrument Flight Training I
Four hours simulator and thirteen hours flight training with seventeen hours of related instruction. Meets FAA requirements. Laboratory fee required. Graded pass/unsatisfactory. Prerequisite: AVI 301.

Instrument Flight Training II
Two hours simulator and sixteen hours flight training with eighteen hours of related instruction and a one-hour FAA exam. Meets FAA requirements. Laboratory fee required. Graded pass/unsatisfactory. Prerequisite: AVI 303.

Independent Study
Independent reading, writing, flying, and/or reporting in areas related to aviation. Topics vary. Departmental permission required.

Biochemistry and Molecular Biology/BMB
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Introductory Biochemistry
Current topics in biochemistry, molecular biology, and nutrition for non-science 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.
250-4 Human Nutrition
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.

401-1 to 4 Topics in Biochemistry

421-4 Biochemistry I
Chemistry of biological compounds and introduction to enzymes. May be taken for letter grade or pass/unsatisfactory.

423-4 Biochemistry II
Intermediate metabolism of carbohydrates, proteins, nucleic acids, and lipids. May be taken for letter grade or pass/unsatisfactory. Prerequisite: BMB 421.

427-4 Advanced Undergraduate Biochemistry
Metabolism of hormones and amino acids, integration of metabolism, and aspects of human biochemistry including some metabolic disorders and nutrition. Prerequisite: BMB 423.

488-1 Independent Reading

495-1 to Honors Research in Biochemistry
Laboratory experience in biochemistry. Graded pass/unsatisfactory. Prerequisite: General chemistry and biology. Pre- or corequisite: BMB 421, 423.

499-1 to 4 Undergraduate Research

Biological Sciences/BIO

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

105-4 Cells, Genes, and Genetics
Study of cells and genetics provides the focus for examining the unique interactions of matter, energy, and information that produce life and provide for its continuity and change. 3 hours lecture, 2 hours lab.

106-4 Evolution and Ecology
Examination of the interactions between organisms and their environments that determine the abundance, forms, and adaptations of species in space and time. 3 hours lecture, 2 hours lab. Prerequisite: BIO 105.

107-4 Human Biology
Examination of the organization and function of the human body throughout the cycle of life. 3 hours lecture, 2 hours lab. Prerequisite: BIO 106.

112-4 Principles of Biology: Cell Biology and Genetics
Introduction to basic concepts of biology. Topics include genetics and the molecular and cellular basis for the unity of life.

114-4 Organismic Biology
Introduction to the structure and function of plants and animals. Prerequisite: BIO 112.

115-4 Principles of Biology: Diversity and Ecology
Introduction to basic concepts of biology. Topics include evolution, ecology, and the diversity of life. Prerequisite: BIO 112.

119-1 Honors Recitation, Principles of Biology (112, 114, 115)
Recitation/discussion section to review basic concepts developed in the laboratory. Coregistration in lecture and honors laboratory required.

199-1 Introduction to Biological Investigation
For individually motivated students at the introductory level who wish to pursue some particular project under faculty supervision. Graded pass/unsatisfactory.

Departmental Unit Courses

210-4 Molecular Biology I
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.

211-4 Genetics I
Emphasizes understanding of the control of gene expression in both prokaryotes and eukaryotes. Includes study of chromosome structure, replication, recombination, and repair. Prerequisite: BIO 112, 114, 115, 210; CHM 121, 122, 123.

212-4 Cell Biology I
Emphasizes eukaryotic cell structure and function, including energetics and involvement of various organelles. Prerequisite: BIO 112, 114, 115, 211; CHM 121, 122, 123.

252-5 Microbiology
Study of morphology, cultivation, and biochemical activities of microorganisms. Survey of viruses, bacteria, blue-green algae, fungi, and their diversity in natural environments. 3 hours lecture, 4 hours lab. Prerequisite: One year introductory biology.
253-5 Biology of Lower Plants
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. 2 hours lecture, 6 hours lab. Prerequisite: One year introductory biology.

254-5 Biology of Vascular Plants
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. 2 hours lecture, 6 hours lab. Prerequisite: One year introductory biology.

255-5 Biology of the Invertebrates
Morphology, development, physiology, and evolutionary relationships of major invertebrate groups. 3 hours lecture, 6 hours lab. Prerequisite: One year introductory biology.

256-5 Biology of the Vertebrates
Introduction to the anatomy and evolutionary history of vertebrate animals. Prerequisite: BIO 112, 114, 115.

294-1 Introduction to Medical Technology
Familiarizes students with the medical-technology profession and the educational programs required to become a medical technologist.

303-5 Vertebrate Histology
Study of structure/function relationships in vertebrate tissues, organs, and organ systems. 3 hours lecture, 4 hours lab. Prerequisite: At least one 200-level or above biology course; CHM 211; or permission of instructor.

304-5 Plant Physiology
Special aspects of plant physiology that set plants apart from other organisms. Laboratory introduces independent research concerning plant nutrition and bud development. 3 hours lecture, 4 hours lab. Prerequisite: BIO 253 or 254; CHM 123.

305-3 Animal Physiology
Basic adaptive mechanisms and their coordination in the activities of the metazoa. Prerequisite: One year introductory biology; and BIO 255 or 256.

306-5 Ecology
Introduction to ecology; emphasis on the organism's interaction with the environment. 3 hours lecture, 4 hours lab. Prerequisite: One year introductory biology.

308-2 Animal Physiology Laboratory
Laboratory studies of basic adaptive mechanisms and their coordination in the activities of the metazoa. Prerequisite: BIO 112, 115; and BIO 255 or 256.

321-5 Vertebrate Embryology
A study of embryonic growth and development viewed at the organismic and cellular levels. The relationship of the principles and patterns of morphogenesis to evolutionary theory is stressed. Prerequisite: One year introductory biology.

345-4.5 Concepts in Biology
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.

403-5 Developmental Biology
Describes underlying processes that initiate, in plants and animals, the development of tissues and the whole organism. Laboratory exercises highlight developmental processes. 3 hours lecture, 4 hours lab. Prerequisite: One year introductory biology.

410-4 Cell-Molecular Biology Laboratory
Introduction to methods used in cell biology for isolating and detecting intracellular components and in molecular biology for manipulating DNA. Prerequisite: BIO 210, 211, 212, CHM 211, 212, 213.

442-3 Advanced Molecular Biology
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, 410; CHM 211, 212, 213.

492-1 to 2 Senior Seminar
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.

Additional Courses
201-1 to 3 Topics in Biology
Selected biological topics of current interest.

278-4.5 Anatomy and Physiology I
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.

279-4.5 Anatomy and Physiology II
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.

310-3 Issues in Science
(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.

399-1 Undergraduate Teaching Assistant
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 3 credits. Graded pass/unsatisfactory. Prerequisite: Junior standing and GPA of 3.0.
404-6 Basic Electron Microscopy
Basic theory and practical experience in transmission electron microscopic technology. Animal, plant, and particulate specimens are processed in the laboratory. Prerequisite: BIO 303 or 212, completion of chemistry requirement, and permission of instructor.

406-1 Evolutionary Biology
Historical development and current understanding of the principles of evolution. Prerequisite: BIO 112, 114, 115, 212. Junior standing required.

408-3 Writing in the Biological Sciences
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: One year introductory biology.

411-6 The Aquatic Environment
Introduction to limnology. Field and laboratory course concerned with physical, chemical, and biological factors that characterize natural waters.

413-5 Biological Problems of Water Pollution
Introduction to biological aspects of water pollution. Lectures, discussions, laboratories, and field trips on various types of pollutants and their impact on aquatic life.

415-4 Environmental Toxicology
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.

420-3 Designing Biological Experiments
Principles of effective sampling design for biological experiments. Reconciling the peculiarities of biological data with the assumptions of statistical methods. Lectures and problem sets. Completion of two 300-level or above biology courses and one course in statistics required.

421-3 Human Genetics for Health Professionals
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.

425-5 Microbial Ecology
Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and environments. Includes field studies. Prerequisite: CHM 123.

426-4 Human Genetics
Nature of human genetic traits, methods of analysis of inheritance. Prerequisite: BIO 302, 402.

429-5 Plant Anatomy
Examines the internal structure of vascular plants. Special emphasis is placed on structure-function relations and their adaptive significance. Prerequisite: One year introductory biology.

454-3 Microbial Genetics
Basic concepts of production of microbial mutations, their detection and analysis. Use of microbial genetics in elucidating cellular functions. The construction of plasmids and their use in genetic engineering. Prerequisite: BIO 252, 302, 402, BMB 421 or 423, or permission of instructor.

464-3 Microbiology of Food
Principles of food microbiology, preservation, and handling. Major organisms of food poisoning and means of control are considered. Completion of a course in microbiology required.

473-5 Biology of Selected Marine Environments
Biological aspects of marine environments. Sampling and observation of living marine specimens during week-long trip to marine laboratory.

475-2 Microbiology of Food Laboratory
Methods for evaluating microbial quality of food. Includes investigation of major pathogens, and techniques and principles of processing food. Completion of a laboratory course in general microbiology required. Prerequisite: BIO 252 or M&1 220. Corequisite: BIO 464.

476-2 Human Parasitology
Study of aspects of parasitology including biology, epidemiology, diagnosis, and identification of parasites. Divided into three major categories: protozoology, helminthology, and arthropodology.

477-3 Human Parasitology Laboratory
Examination and identification of protozoan, helminthic, and arthropod parasites of humans. Corequisite: BIO 476.

480-5 Biology of Fishes
An introduction to the evolution, ecology, and distribution of freshwater and marine fishes. Prerequisite: Junior standing required.

484-3 Introduction to Biogeography
(Also listed as GEO 484.) Introduction to the factors affecting the distribution of plants and animals. Prerequisite: BIO 112, 115.

488-1 Independent Reading
Graded pass/unsatisfactory.

490-9 to 12 Biology Internship
Off-campus experience in cooperating scientific agency or industrial organization. Reports and specific assignments determined in consultation with faculty advisor and supervising professionals. Junior standing in biology and department approval required.

495-1 to 5 Senior Honors Research

499-1 to 3 Special Problems in Biology

Biomedical Engineering/BME

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

155-4 Adaptive Computer Technology
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.
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COURSES

Biomedical Engineering

Business

419-3 Biomedical Engineering Systems I
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.

420-3 Biomedical Engineering Systems II
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.

422-3 Engineering Biophysics
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 or permission of instructor.

428-3 Biomechanics and Biothermodynamics
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, 315 or permission of instructor.

439-4 Biotransport and Artificial Organs I
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.

440-4 Biomaterials
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: BME 439.

461-4 Bioinstrumentation I
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: EE 401, 402, 413, 414.

462-4 Bioinstrumentation II
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.

463-2 Biomedical Computers I
Digital computer applications in biomedical related fields. Use of software to solve biomedical problems and display the results. Prerequisite: CEG 220, EE 301.

464-4 Biomedical Computers II
Principles, hardware structure, and programming techniques of microprocessors. Applications of microprocessor-based systems in hospitals, rehabilitation engineering, and medical research. Prerequisite: BME 463, EE 302.

466-3 Biomedical Signal Processing
Introduction to biomedical signal processing and analysis. Topics include characteristics of various biomedical signals; time-domain and frequency-domain; continuous and discrete signal representations; and applications of digital and random signal processing methods to the analysis of biomedical signals. Prerequisite: EE 321, STT 363.

470-3 Photon Radiation
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 244. (Previously listed as BME 455.)

471-3 Medical Imaging
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. (Previously listed as BM 465.)

493-3 Biomedical Engineering Design I
Individualized design projects allowing students to make use of design and analytical skills. Prerequisite: BME 420; Corequisite: BME 461.

494-3 Biomedical Engineering Design II
Individualized design projects allowing students to use design and analytical skills. Prerequisite: BME 461, 493.

495-3 Biomedical Engineering Design III
Individualized design projects allowing students to use design and analytical skills. Prerequisite: BME 494.

499-1 to 5 Special Problems in Engineering
Special problems in advanced engineering topics. Topics vary.

Business/BUS

100-3 Horizons in Business
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.

480-3 to 6 Special Topics in Business
Topics vary. May be taken for letter grade or pass/unsatisfactory.
Chemistry/CHM

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

105-4 Chemistry of Our World: Living Things
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. 3 hours lecture, 2 hours lab.

106-4 Chemistry of Our World: Materials
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. 3 hours lecture, 2 hours lab.

107-4 Chemistry of Our World: Energy and the Environment
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. 3 hours lecture, 2 hours lab.

Sequence substitutions: CHM 121, 122, and 123 or CHM 101 or 102 and BMB 250 and PHR 340. Honors students may substitute UH 203 for CHM 107. The CHM 191, 192, 193 sequence may be substituted for the CHM 121, 122, 123 sequence.

Departmental Courses

101-4.5 Introduction to Chemistry
Historical approach to the fundamentals of chemistry: composition and structure, properties and transformations of matter. 3 hours lecture, 3 hours lab.

102-4.5 Elementary Organic Chemistry with Applications
An elementary discussion of the structure of hydrocarbons, organic functional groups, and a few selected reactions. 3 hours lecture, 3 hours lab. Prerequisite: CHM 101 or 121.

105-4 Chemistry of Our World: Living Things
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. 3 hours lecture, 2 hours lab.

106-4 Chemistry of Our World: Materials
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. 3 hours lecture, 3 hours lab. Prerequisite: 3 units of high-school science or equivalent; or CHM 101; or CHM 105.

107-4 Chemistry of Our World: Energy and the Environment
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. 3 hours lecture, 2 hours lab. Prerequisite: 3 units of high school science or equivalent; or CHM 101; or CHM 106.

121-5 Submicroscopic Chemistry
Structure and properties of atoms and molecules and the macroscopic consequences thereof. 3 hours lecture, 3 hours lab, 1 hour recitation. Prerequisite: High school chemistry or CHM 101; and MTH 127 or level 4 on math placement test.

122-5 Macroscopic Chemistry
Physical and chemical behavior of large collections of atoms and molecules. 3 hours lecture, 3 hours lab, 1 hour recitation. Prerequisite: CHM 121.

123-5 Reaction Dynamics
Quantitative aspects of chemistry; emphasis on computational and experimental estimation of the composition of chemical systems. 3 hours lecture, 3 hours lab, 1 hour recitation. Prerequisite: CHM 122; MTH 128 or 129 or level 5 on math placement test.

191-5 Modern General Chemistry I: Organic
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.

192-5 Modern General Chemistry II: Materials
Useful materials are presented from a chemical point of view with fundamental concepts introduced as needed. Prerequisite: CHM 191.

193-5 Modern General Chemistry III: Energy
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.

211-4, 212-4, 213-4 Organic Chemistry
Principles, theories, and applications of the chemistry of carbon compounds. 3 hours lecture, 1 hour recitation. Prerequisite: for 211, CHM 123; for 212, CHM 211; for 213, CHM 212. Corequisite: for 211, CHM 215; for 212, CHM 216; for 213, CHM 217.

215-2 Organic Chemistry Laboratory I
Laboratory illustrations of CHM 211 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 123. Corequisite: CHM 211.

216-2 Organic Chemistry Laboratory II
Laboratory illustrations of CHM 212 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 215. Corequisite: CHM 212.

217-2 Organic Chemistry Laboratory III
Laboratory illustrations of CHM 213 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 216. Corequisite: CHM 213.
245-4.5 Concepts in Chemistry
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 127 or level 4 on math placement test and MTH 105.

310-3 Issues in Science
(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.

312-3 Quantitative Analysis
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.

314-4.5 Quantitative Analysis Laboratory
Experimental methods of analysis. Practical applications of lecture material presented in CHM 312. Prerequisite: CHM 123. Corequisite: CHM 312.

319-3 Chemical Literature and Composition
Literature searching of journals, handbooks, abstracts, and patents. Writing of literature reports, abstracts, papers, and reports. 3 lectures. Prerequisite: CHM 212, 451.

361-4 The Organic Chemistry of Engineering Materials
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: CHM 122.

410-3.5 Environmental Chemistry I: Air
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. 2 hours lecture, 3 hours lab, or field project. Prerequisite: CHM 213, 312; or permission of instructor.

411-3.5 Environmental Chemistry II: Water
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. 2 hours lecture, 3 hours lab or field project. Prerequisite: CHM 213, 312; or permission of instructor.

417-3 Applied Chemical Spectroscopy
The practical applications of various spectroscopic 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, 452 or permission of instructor.

420-3, 421-3 Inorganic Chemistry
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 permission of instructor.

425-3 Advanced Inorganic Synthesis and Characterization
Advanced synthesis and characterization of representative inorganic compounds. Prerequisite: CHM 417, 420 or permission of instructor.

435-3 Instrumental Analysis
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.

436-4.5 Instrumental Analysis Laboratory
Introduction to experimental instrumental analysis. Practical experience in the operation of chemical instrumentation; emphasizes applications of material presented in CHM 435. Prerequisite: CHM 312, 452. Corequisite: CHM 435.

440-3, 441-3 Synthetic Medicinal Chemistry I, II
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.

443-3, 444-3 Chemical Toxicology I, II
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, 312.

445-3 Advanced Organic Synthesis and Characterization
Advanced synthesis and identification of organic compounds. 1 hour lecture. 4 hours lab. Prerequisite: CHM 213, 217, 417.

451-3, 452-3, 453-3 Physical Chemistry
Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids. Prerequisite: CHM 123, MTH 231, PHY 242; or permission of instructor.

457-3 Physical Chemistry Laboratory I
Experimental methods of physical chemistry. Corequisite: CHM 452.

458-3 Physical Chemistry Laboratory II
Experimental methods of physical chemistry. Corequisite: CHM 453.

461-3 Synthetic Polymer Chemistry
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.
465-3 Physical Polymer Chemistry
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 451; or 361, or permission of instructor. Corequisite: CHM 467.

467-1 to 2 Physical Polymer Chemistry Laboratory
Laboratory illustrations of CHM 465 lecture material and techniques of polymer science. Corequisite: CHM 465.

468-1 to 2 Polymer Synthesis Laboratory
Laboratory illustrations of CHM 461 lecture material and techniques of polymer science. Pre- or corequisite: CHM 461.

469-4 Engineering Plastics: Materials, Processes, and Design
(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. 2 hours lecture, 4 hours lab. Prerequisite: CHM 465.

479-4 Materials Corrosion
(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, 371, or corequisite CHM 453, or permission of instructor.

488-1 to 3 Independent Reading
499-1 to 5 Special Problems in Chemistry

Chinese/CHI
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

111-4 Essentials of Chinese
Introduction to Chinese with emphasis on speaking the language.

Classics/CLS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Courses under this heading do not require knowledge of Greek or Latin.

100-4 Latin and Greek Roots in English
Builds English vocabulary through a study of Latin and Greek roots. Emphasis on words used commonly in higher education rather than on specialized terminology.

101-4 Medical and Scientific Terminology
Spelling, recognition, and understanding of contemporary specialized medical and scientific vocabulary that is based on the Latin and Greek languages. Emphasis on terminology of the medical sciences.

150-3 Greek and Roman Culture
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.

160-3 Introduction to Classical Mythology
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.

CLS 150 is strongly recommended, but not required, as a prerequisite for all advanced courses.

300-4 How We Know about Antiquity
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.

310-4 The Golden Age of Greece
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.

320-4 Rome: Republic and Empire
Emphasis on Late Republic and Early Empire, particularly the Augustan Age. The idealism of Virgil and Lucretius; the realism of Cicero, Sallust, and Tacitus.

The following courses offer a variety of topics; they may be repeated for credit by number, although not by content. Students should consult the department for the scheduled subjects.

330-4 Studies in Ancient Literature
Drama, epic, and lyric poetry; prose; selected themes in ancient literature; and literary criticism.

340-4 Studies in Ancient Art and Archaeology
(Also listed as ART 411.) Greece in the Bronze Age; classical Greece and Rome; and selected areas of Greek and Roman archaeology.

350-4 Studies in Ancient Culture and Society
Greek and Roman civilization with evidence from art, literature, archaeology, law, and other sources.

360-4 Studies in Ancient Mythology
Greek and Roman mythology; aspects and approaches to the study of myths; and archaeological and nonliterary sources.

370-4 Studies in Ancient Law, Government, and Politics
Law and legal systems of Greece and Rome; government and administration; and political problems of the ancient world.

390-4 to 4 Studies in Selected Subjects
Course of variable content dealing with problems, approaches, and topics in the field of classics.

481-4 Independent Reading
Directed studies in literature, mythology, archaeology, law, and government. For classical humanities majors only.

499-2 Senior Comprehensive Review
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. For classics, Greek, or Latin majors only.
253-3 Basic Video Production
(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.

256-4 Basic Media Writing
(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.

330-1 Advanced Communication Activities
Research, practice, and participation in communication activities, symposia, or an oral communication project designed to meet the interest of individual students. Independent study. Graded pass/unsatisfactory.

333-4 Persuasion

335-4 Survey of Rhetorical Theory
Overview of general rhetorical theory from classical and Roman foundations to modern rhetoric. Emphasis on selected works of scholars and rhetoricians. Prerequisite: COM 101 or permission of instructor.

343-4 Communication and Human Relations
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.

345-4 Public Relations: Principles and Practices
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 or one external campaign for students. Prerequisite: COM 256 and permission of instructor.

346-4 Public Relations Campaign Techniques
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.

347-4 Case Studies in Public Relations
In-depth analysis of the public relations process through an examination of various cases involving public relations problems. Prerequisite: COM 345.

358-4 Emerging Communication Technologies
Examines developing communication technologies with emphasis on alternative delivery systems. Prerequisite: COM 256 or permission of instructor.

360-4 Broadcast Journalism
Examination of broadcast news with special attention given to coverage, selection, and reporting of the news. Prerequisite: COM 256 or permission of instructor.
364-4 Communication Graphics
(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.

365-4 Issues in Mass Communication
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.

366-4 Advanced News Writing
(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.

399-4 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of speech. Topics vary.

400-4 Senior Seminar in Communication
A capstone course in which advanced communication majors develop portfolios to demonstrate achievements, as preparation for careers in professional or academic areas of communication. Course includes: formal assessment on communication and thinking skills. Senior standing required. Prerequisite: At least 44 hours of communication courses, including COM 101 and COM 200.

401-4 Communication Theory
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.

411-4 Performance for the Media
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.

429-4 Urban Communications Theory
(Also listed as PLS 429) Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communications system developed by interdisciplinary systems approach.

432-4 Gender and Communication
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.

439-4 Freedom of Speech
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 permission of instructor.

441-4 Advanced Interpersonal Communication
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.

443-4 Interviewing
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.

445-4 Conference Leadership
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.

446-4 Introduction to Organizational Communication
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. For communication majors only. (Previously listed as COM 303.)

447-4 Organizational Communication: Applications and Strategies
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.

448-4 Case Studies in Organizational Communication
A critical analysis of communication issues and problems in organizations through an examination of various cases. Prerequisite: COM 446, 447.

449-4 Survey of Communication Research
Provides a basic knowledge of the behavioral approach and current theories and experiments in communications research.

451-4 Communication Consulting and Training
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.

453-4 Communication and Conflict
In-depth study of the function of communication in conflict/crisis situations. Emphasizes the role that communication performs in conflict resolution in intrapersonal, interpersonal, group, and international situations.

454-4 Feature Story Writing
(Also listed as ENG 454) Finding, writing, polishing, and marketing feature material. Prerequisite: COM 256 or permission of instructor.
455-4 Nonverbal Communication
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.

457-4 Intercultural Communication
Study of communication in intercultural environments. Emphasis on research and theory to better understand the complexity of intercultural communication interactions.

458-4 Editing for the Media
(Also listed as ENG 458.) 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.

460-4 Programming and Management of Electronic Media
Analysis of programs and program strategies for broadcast and other electronic media. Emphasis on information for managing these media. Prerequisite: Permission of instructor.

462-4 Mass Media: Law and Regulation
Study of laws and regulations affecting mass media. Prerequisite: COM 256 and permission of instructor.

464-4 Broadcast Criticism
Analysis of contemporary programming and production practices including the development of critical standards for evaluation. Prerequisite: COM 256 and permission of instructor.

471-4 Topics in Communication
Examination of special topics in the various areas of speech communication. Titles vary.

481-1 to 4 Independent Study
Faculty-directed readings and research.

482-1 to 4 Senior Honors Project
Independent studies course that allows students to pursue research that culminates in a senior honors thesis or project.

489-4 Communicating with the Elderly
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.

491-1 Communication Techniques and Evaluation
Philosophy and techniques of conducting communication events. Includes the planning, initiating, and summarizing of communication activities, and evaluating written and oral performance.

Comparative Literature/CPL

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

310-4 Problems in Comparative Literature
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.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of comparative literature. Topics vary.

Comparative Studies/CST/CSE

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

CST 220-3 Comparative Non-Western Environments
Examination of distinctive environments of Asia and Africa through analysis of the geographic patterns of land use, population, settlements, economic activities, languages, religions, and political systems.

CST 230-3 Comparative Non-Western World Views
Examination of the world views of selected non-Western peoples and their varied expressions in literature and religion, emphasizing examples from Asia, Africa, Latin America, and the Middle East. Titles vary.

CST 240-3 Comparative Non-Western Cultures
Introduction to the cultural diversity and uniqueness of selected areas of Asia, Africa, Latin America, and the Middle East as reflected in their cultural systems or in particular cultural manifestations such as the arts. Titles vary.

CST 250-3 Comparative Non-Western Social Systems
Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.

CSE 250-3 Comparative Non-Western Economic Systems
Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.

Departmental Courses

CST 220-3 Comparative Non-Western Environments
Examination of distinctive environments of Asia and Africa through analysis of the geographic patterns of land use, population, settlements, economic activities, languages, religions, and political systems.

CST 230-3 Comparative Non-Western World Views
Examination of the world views of selected non-Western peoples and their varied expressions in literature and religion, emphasizing examples from Asia, Africa, Latin America, and the Middle East. Titles vary.

CST 240-3 Comparative Non-Western Cultures
Introduction to the cultural diversity and uniqueness of selected areas of Asia, Africa, Latin America, and the Middle East as reflected in their cultural systems or in particular cultural manifestations such as the arts. Titles vary.

CST 250-3 Comparative Non-Western Social Systems
Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.
CSE 250-3 Comparative Non-Western Economic Systems
Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.

Computer Engineering/CEG

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

210-4 Introduction to PC Networking
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.

220-4 C Programming for Engineers
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: MTH 229. (Previously listed as CS 220.)

221-4 Advanced C Programming for Engineers
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 220. (Previously listed as CS 221.)

260-4 Digital Computer Hardware/Switching Circuits
(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. 3 hours lecture, 2 hours lab. Prerequisite: CS 142 or CS 220 or EGR 153.

305-4 Introduction to Expert Systems
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: CS 141 or 240 CEG 220 or EGR 153.

320-4 Computer Organization and Assembly Language Programming
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. 3 hours lecture, 2 hours lab. Prerequisite: CEG 260, CS 242.

360-4 Digital Systems Design
(Also listed as EE 451.) Design of digital systems. Topics include flip-flops, timers, registers, digital arithmetic, register-level design, memory devices and their logic, controller and processor design, computer logic design, and microcomputer system design. Students must show competency in the design of digital systems. 3 hours lecture, 2 hours lab. Prerequisite: CEG 260.

402-4 Introduction to Computer Communication Design
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. 3 hours lecture, 2 hours lab. Prerequisite: CEG 360.

411-4 Microprocessor-based System Design
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 260, EE 301, and 302.

416-4 Matrix Computations
(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.

419-4 Introduction to Fuzzy Logic Control
(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. 3 hours lecture, 2 hours lab. Prerequisite: EE 413, 414.

421-4 Microcomputer Design Projects
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. 3 hours lecture, 2 hours lab. Prerequisite: CEG 320, 360.

425-4 VHDL Hardware Description Language (VHDL)
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.
428-4 Linear Optical Systems for Computer Engineers
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, 322.

433-4 Operating Systems
The management of resources in multiuser computer systems. Emphasis is on problems of file-system design, process scheduling, memory allocation, protection, and tools needed for solutions. Course projects use the C language and include the design of portions of an operating system. Prerequisite: CEG 320, CS 400.

434-4 Concurrent Software Design
Classical problems of synchronization and concurrency and their solutions are examined through course projects and through readings on operating-system design. Prerequisite: CEG 433.

452-4 Standard Cell VLSI Design Techniques
(Also listed as EE 452.) Standard cell VLSI design techniques. Topics include introduction to VLSI, MOS transistors, CMOS logic circuits, standard cell libraries, cell usage, schematic capture and simulation circuit testing, and test program generation. Prerequisite: CEG 360/EE 451, EE 431, and 434.

453-4 Design of Computing Systems
Laboratory projects combine engineering hardware and computer-science software concepts in the design and implementation of small, special-purpose computer systems. 3 hours lecture, 2 hours lab. Prerequisite: CEG 320, 360.

454-4 VLSI Design
(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, 434, 451/CEG 360.

456-4 Introduction to Robotics
(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 and MTH 253; proficiency in Pascal, C, or FORTRAN programming.

458-4 Digital Integrated Circuit Design with PLDs and FPGAs
(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: EE 451.

459-4 Integrated Circuit Design Synthesis with VHDL
(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: CEG 220. C programming of equivalent and CEG 260.

460-4 Introduction to Software Engineering
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. 3 hours lecture, 2 hours lab. Prerequisite: CS 400 and 340 (ADA) or 480.

476-4 Computer Graphics I
(Also listed as MTH 476.) The principles of design, use, and understanding of computer graphics systems. Covers basic drawing techniques, line and polygon clipping, two-dimensional and three-dimensional transformations, segmentation, projections, and three-dimensional viewing. Graphics standards (GKS and PHIGS) and hardware are discussed. Each student will create a menu-driven, interactive graphics package capable of generalized three-dimensional viewing. Prerequisite: CS 400, MTH 253 or 255.

477-4 Computer Graphics II
(Also listed as MTH 477.) Continuation of CEG 476. Covers selected topics in detail including hidden line and surface removal, shading models, curved surface generation, and color models. Projects are individualized and creative. Selected papers are used for in-depth material. Emphasis is on the design of graphics systems. 3 hours lecture, 2 hours lab. Prerequisite: CEG 476.

499-1 to 5 Selected Topics
Topics vary. May be taken for letter grade or pass/unsatisfactory.

Computer Science/CS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

141-4 Computer Programming I
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. 3 hours lecture, 2 hours lab. Prerequisite: MTH 127 or at least level 4 on math placement test.

142-4 Computer Programming II
Concepts introduced in CS 141 are developed in greater detail and depth. Emphasis on verification and testing of programs. 3 hours lecture, 2 hours lab. Prerequisite: CS 141.

205-4 Computer Literacy and Office Automation
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). 2 hours lecture, 4 hours lab.
206-4 Computer Software Productivity Tools
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.

207-4 Advanced Office Productivity II
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.

208-4 Computer Programming for Business with C-I
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, MTH 129.

209-4 Computer Programming for Business with C-II
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.

225-4 Introduction to Ada Programming
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.

240-4 Computer Science I
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. Corequisite: MTH 130 and 131; or MTH 134.

241-4 Computer Science II
A continuation of CS 240. The emphasis is on data abstraction and software engineering. For CS/CEG majors only. Prerequisite: CS 240. Corequisite: MTH 229.

242-4 Computer Science III

300-4, 301-4 COBOL Programming I, II
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. 3 hours lecture, 2 hours lab. Prerequisite: for 300, CS 142 or 241; for 301, CS 300.

315-2 Job Control Language
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.

316-4, 317-4 Numerical Methods for Digital Computers
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. 3 hours lecture, 2 hours lab. Prerequisite: for 316: CS 142 or EGR 153 or CS 241 or CEG 220, MTH 231, 253, or 255; for 317: CS 316, MTH 233, 253 or 355.

340-1 Programming Language Workshop
Self-directed study in computer languages. Language varies. Individual workshops are offered in significant languages such as COBOL, PL/I, SNOBOL, LISP, SIMSCRIPT, and GPSS. May be taken for letter grade or pass/unsatisfactory. Prerequisite: CS 400.

399-1 to 5 Selected Topics
Selected topics in computer science. May be taken for letter grade or pass/unsatisfactory.

400-4 Data Structures and Software Design
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. 3 hours lecture, 2 hours lab. Prerequisite: CS 242, MTH 253, 257.

405-4 Introduction to Data Base Management Systems
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. 3 hours lecture, 2 hours lab. Prerequisite: CS 400.

407-3 Optimization Techniques
(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 253 or 255.

410-4 Theoretical Foundations of Computing
(Also listed as MTH 410.) Turing machines; µ-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. 3 hours lecture, 2 hours lab. Prerequisite: CS 466.

415-3 Social Implications of Computing
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.
419-3 Cryptography and Data Security
(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, the data encryption standard (DES), and key safeguarding schemes. Prerequisite: MTH 253 or 255.

458-3 Applied Graph Theory
(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.

459-3 Combinatorial Tools for Computer Science
(Also listed as MTH 459.) Introduction to some of the mathematical tools needed for understanding of computer programming. The topics covered are summations, elementary number theory, combinatorial identities, generating functions, and asymptotics. MTH 457 recommended. Prerequisite: MTH 280.

466-4 Introduction to Formal Languages
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). 3 hours lecture, 2 hours lab. Prerequisite: CS 400, MTH 257, or MTH 257 and completion of a 400-level math or statistics course.

470-4 Systems Simulation
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. 3 hours lecture, 2 hours lab. Prerequisite: CS 400, STT 360.

480-4 Comparative Languages
Basic concepts and special-purpose facilities in programming languages examined through several representative languages. 3 hours lecture, 2 hours lab. Prerequisite: CS 400.

482-4 Scanning, Parsing, and Semantic Analysis
Study and use of tools for performing lexical, syntactic, and semantic analysis of computer-oriented languages. Prerequisite: CS 466, 480.

499-1 to 5 Selected Topics
Selected topics in computer science. May be taken for letter grade or pass/unsatisfactory, at instructor’s option.

Counseling/CNL
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

461-4 Principles of Counseling
Overview of major counseling theories and techniques. Review of historical foundations of the mental health movement. Social, psychological, and philosophical influences are considered.

463-4 Mental Health
Factors influencing behavior of individuals; methods a counselor may use in observing, analyzing, and improving attitudes and behavior.

464-4 Crisis Intervention
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.

467-4 Group Background and Theory
Surveys the background, theory, patterns of function, technique of facilitating, and use of small groups in counseling. Prerequisite: CNL 461, RHB 407.

470-1 to 6 Counselor Education Workshop
Intensive study of selected areas from counselor education to meet the particular needs of participating students, schools, and agencies. Titles vary. Graded pass/unsatisfactory.

Dance
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-3, 102-3, 103-3 Ballet I
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.

111-3, 112-3, 113-3 Modern Dance I: Fundamentals of Dance
Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination.

121-3, 122-3, 123-3 Beginning Jazz
Emphasis on various contemporary jazz techniques and styles beginning with a warm-up and ending with a center floor combination.

131-2, 132-2, 133-2 Intermediate Jazz I
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: for 131, DAN 111 or permission of department; for 132, DAN 131 or permission of department; for 133, DAN 132 or permission of department.

201-3, 202-3, 203-3 Ballet II
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: for 201, DAN 103; for 202, DAN 201; for 203, DAN 202.
### Modern Dance I
Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: for 211, DAN 113.

### Modern Dance for Actors
Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: for 214, DAN 113; for 215, DAN 214; for 216, DAN 215.

### Intermediate Jazz I
Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: for 231, DAN 133; for 232, DAN 231; for 233, DAN 232.

### Dance History
Survey of Western theatrical dance from its roots in early cultures to the twentieth century. Prerequisite: for 251, DAN 113 or departmental approval; for 252, DAN 251; for 253, DAN 252.

### Ballet III
Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: for 301, DAN 203; for 302, DAN 301; for 303, DAN 302.

### Modern Dance III
Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: for 311, DAN 213.

### Jazz/Theatre Dance I
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: for 321, DAN 213; for 322, DAN 321; for 323, DAN 322.

### Improvisation
Exploration of improvisation techniques as a compositional tool. For dance majors only. Prerequisite: DAN 213.

### Choreography
Exploration of compositional techniques culminating in the creation of solos and ensemble works. For dance majors only. Prerequisite: for 342, DAN 341; for 343, DAN 342.

### Dance Pedagogy
Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: for 371, DAN 252; for 372, DAN 371; for 373, DAN 372.

### Dance Studies in Selected Subjects
Problems, approaches, and topics in the field of dance. Topics vary.

### Modern Dance IV
Advanced work in modern dance techniques and styles. Prerequisite: for 411, DAN 313.

### Jazz/Theatre Dance II
Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance. Prerequisite: for 421, DAN 323; for 422, DAN 421; for 423, DAN 422.

### Pointe Class
Emphasizes pointe work for the female dancer, to develop strength on pointe for classical ballet. Prerequisite: DAN 203.

### Men's Ballet Class
Specific movements and exercises geared to the male dancer, to develop strength and virtuosity. Prerequisite: DAN 203.

### Pas de Deux Class
Trains male and female dancers in the art of partnering, an essential part of all dance. Prerequisite: DAN 203.

### Senior Dance Project
Advanced work for dance majors in creative projects and/or dance research. Prerequisite: for 491, DAN 343; for 492, DAN 491; for 493, DAN 492; or departmental approval.

### Essentials of Danish
Introduction to Danish with an emphasis on speaking the language.

### Developmental Education
See Study Skills

### Economics
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

### Economics/EC
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

### General Education Course

#### Economic Life
Introduction to basic 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.

### Departmental Courses

#### Economic Life
Introduction to basic 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.
201-3, 202-3, 203-3 Principles of Economics  
Fundamental economic principles as an aid in understanding modern society. 201: Introduction to Economics; 202: Microeconomics; 203: Macroeconomics. Prerequisite: for 202 and 203, EC 201.

300-3 Consumer Economics  
Understanding the economic world in which the consumer lives, works, spends, saves, and frequently invests is stressed. Prerequisite: EC 200 or 201.

330-3 Urban Economic Problems and Prospects  
Analysis of economic processes that influence urban economic conditions, population movements, economic problems facing metropolitan areas, and alternative problem-solving techniques. Prerequisite: EC 200 or EC 201, 202, 203, or permission of instructor.

Advanced Courses  
All of the following courses require junior standing in addition to the listed prerequisites.

301-3 Money and Banking  
Analysis of behavior and significance of money, credit, debt, and the banking system. Prerequisite: EC 201, 202, 203 or permission of instructor.

315-4 Intermediate Microeconomics  
Develops the analytical tools of microeconomics, stressing market behavior of firms, industries, and consumers. Examines the production processes and the operation of market mechanisms. Policy implications are emphasized. This is a writing-intensive course. Prerequisite: Junior standing, EC 201, 202, 203, and MTH 228 or permission of instructor.

317-4 Intermediate Macroeconomics  
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: Junior standing, EC 201, 202, 203 and MTH 228 or permission of instructor.

319-4 Institutional Economics  
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 201, 202, 203 or permission of instructor. (Previously listed as EC 316.)

321-3 Economic History  
Analysis of economic, political, social, and cultural changes resulting from industrial advancements and the control over industrial changes exercised by different societies. Prerequisite: EC 200 or EC 201, 202, 203.

326-3 Economics of Poverty and Discrimination  
Analysis of economic causes, effects, and cures for poverty and discrimination. Study of trends, economic explanations, and current programs and legislation. Prerequisite: EC 200 or EC 201, 202, 203 or permission of instructor.

328-3 Socialist and Radical Economics  
Development of Marxist, socialist, and radical economic doctrines with emphasis on contemporary ideas and trends. Prerequisite: EC 200 or EC 201, 202, 203, or permission of instructor.

340-3 International Economic Relations  
Covers the complexities, prospects, and consequences of international flow of goods, services, technology, and capital across countries with a diverse range of economic, social, and political institutions. Prerequisite: EC 200 or EC 201, 202, 203 or permission of instructor.

351-3 Labor Markets  
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 201, 202, 203 or permission of instructor.

352-3 Labor History and Legislation  
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 201, 202, 203 or permission of instructor.

370-3 Environmental Economics  
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 200 or EC 201, 202 or permission of instructor.

401-3 Managerial Economics  
Application of economic analysis to management decision making. Practical methods and problems are stressed. Prerequisite: EC 201, 202, 203 or permission of instructor.

402-3 Monetary Economics  
Analysis of monetary policy development and the theory of money market behavior. Emphasizes the relationship between money and national economic conditions. Prerequisite: EC 301.

409-3 Applied Econometrics  
Application of statistics and economic theory to measurement, forecasting, and other economic problems. Prerequisite: Junior standing, EC 201, 202, 203, MS 202, and MTH 228.

410-3 Mathematical Economics  
Application of mathematical tools in the formulation of economic theory. Methods used in model construction. Completion of a college algebra course required. Prerequisite: EC 201, 202, 203.

412-3 Forecasting Economic Activities  
Techniques and theories used in forecasting. Practical methods and problems are stressed. Prerequisite: Junior standing, EC 201, 202, 203, MS 201 or equivalent, and MTH 228.

425-3 Development of Economic Thought  
Historical development of economic thought and philosophies. Prerequisite: EC 201, 202, 203 or permission of instructor.
431-3 Federal Finance and the Economy
Analysis of federal government expenditures and taxation policies and their impact on economic conditions. Techniques for policy evaluation are discussed. Prerequisite: EC 201, 202, 203 or permission of instructor.

432-3 State and Local Finance and the Economy
Analysis of different taxation policies of state and local governments. Efficient methods of producing public goods such as education and public health services. Prerequisite: EC 201, 202, 203 or permission of instructor.

435-3 Comparative Economic Systems
Comparison of chief characteristics of capitalism, communism, socialism, and fascism to clarify the economic process in a free-enterprise society. Prerequisite: EC 201, 202, 203 or permission of instructor.

436-3 Industrial Organization
Analysis of business behavior under various industry structures and government policies. Emphasis on actual case studies. This is a writing-intensive course. Prerequisite: Junior standing, EC 201, 202, 203, and MTH 228 or permission of instructor.

440-3 Regional Economic Growth and Change
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 201, 202, 203 or EC 330; or permission of instructor.

441-3 International Trade and the Economy
Economic reasons for international trade; impact of trade and its restrictions on economic aggregates. Prerequisite: EC 201, 202, 203 or permission of instructor.

442-3 International Monetary Theory and Problems
Studies international monetary relations and problems. Focuses on institutions and arrangements used to finance international trade. Topics include balance of payments, the dollar and foreign exchange markets, Euro currencies, petrodollars and OPEC, and multinational corporations. Prerequisite: EC 201, 202, 203 or permission of instructor.

444-3 Economic Development and World Poverty
Economic development in less developed countries as it relates to population growth, cultural change, and industrialization. Prerequisite: EC 201, 202, 203 or permission of instructor.

445-3 Political Economy of Women
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 201, 202, 203, or EC 200 with permission of instructor.

477-3 Economic Studies
Examination of special economic issues.

478-3 Honors: Independent Study in Economics
Research in economics for fulfillment of the Honors Program project requirement.

480-3 Economic Issues
Examination of selected economic issues with a view to integrating the discipline. Topics vary. For economics majors or permission of instructor.

481-1 to 3, 482-1 to 3, 483-1 to 3 Independent Reading
Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.

Education/ED
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-1 to 2 Interpersonal Process Learning Laboratory
Explores such areas as listening, communicating, life planning, sexuality, and the helping relationship with emphasis on interpersonal process.

120-1 Teaching as a Career
Designed for prospective teacher candidates to explore teaching as a career choice. Includes an elementary/secondary field placement. Graded pass/unsatisfactory.

200-1 to 3 Education Honors: Special Topics
Introductory seminar to promote leadership in education through the study of special topics (such as futurology, global education, and creativity) related to the foundations of educational thought and the context of educational practices.

214-3 Introduction to Education
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. Corequisite: ED 214, 216.

216-3 Cultural Diversity: Schools and Society
Introduces the make-up of the culturally diverse schools: racial, religious, economic, social, intellectual, physical, age, and sex differences; focuses on implications for education. Corequisite: ED 214, 221.

218-3 Learning Theories and Problem Solving
Introduction to cognitive, affective, and psychomotor domains of learning, problem-solving models, and associated learning theories as applied to teaching. Prerequisite: Teacher Education Major or permission of instructor.

220-3 Development of the School-Age Student
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, 216, 221. Corequisite: ED 218, 223.
### 221-1 Field Experience
Field experience in which students are introduced to the educational process through participation in a classroom and through an examination of the dynamics of the classroom and its setting. Graded pass/unsatisfactory.

### 223-1 Field Experience
Field experience in which students apply knowledge of child development, learning theory, and problem-solving strategies to examine issues that affect the educational system. Graded pass/unsatisfactory. Prerequisite: ED 214, 216, 221. Corequisite: ED 218, 220.

### 241-3, 242-3, 243-3 Physical Science
Content of the physical sciences integrated to promote understanding of intelligent interaction with physical aspects of environment. 3 hours lecture, 1 hour lab. Prerequisite: for 242, ED 241 or permission of instructor; for 243, ED 242 or permission of instructor.

### 302-2 Classroom Management
Introduction of four discipline models: implication for classroom applications; legal concerns in discipline; and discussion of recent research, practice, and innovation in the area. Completion of Phase I program required. Corequisite: ED 327.

### 311-3 Elementary School Science: Curriculum and Materials
Study of basic principles, methods, curriculum trends, and materials; individual laboratory work. Prerequisite: ED 214, 216, 218, 220 or equivalent. Pre- or corequisite: ED 327.

### 315-3 Elementary School Children's Literature: Curriculum and Materials
Introduction to children's literature. Wide reading of children's books with emphasis on selection and use of books and related activities in the elementary school. Prerequisite: ED 214, 216, 218, 220 or equivalent. Pre- or corequisite: ED 327.

### 316-3 Elementary School Language Arts: Curriculum and Materials
Language and communication in elementary school including practices and materials used in teaching oral and written communication. Prerequisite: ED 315 or equivalent. Corequisite: ED 323.

### 317-3 Elementary School Reading: Curriculum and Materials
Practice and materials used in the teaching of reading and related skills in the elementary school. Prerequisite: ED 315, 316 or equivalent.

### 321-1, 323-1 Field Experience IV, V
Sixty hours of field/clinical experiences in the public school in which students implement teaching strategies that have been introduced in the Phase II methods components. Graded pass/unsatisfactory. For 321, completion of Phase I and registration in Phase II required. For 323, permission of the Phase II coordinator required. Corequisite: for 321, ED 302; for 323, ED 316 for elementary education majors and the designated special methods course for secondary majors.

### 327-3 Teaching Skills
Explores the use of basic skills in planning, motivating, and questioning; audio-visual equipment and production; alternative instructional strategies; and management techniques that help facilitate instruction. Prerequisite: ED 214, 216, 218, 220, or equivalent.

### 369-3 Children's Literature for Teachers of Foreign Languages
(Also listed as ML 369.) Reading and discussion of children's books in modern languages (French, Spanish, German, and Russian) and reading information books about the countries where the languages are spoken. Prerequisite: SPN 202 or FR 202 or RUS 202 or GER 202.

### 370-1 to 9 Independent Reading and Minor Problems
Planned reading and/or project under the guidance of a faculty member of the College of Education and Human Services.

#### Advanced Courses
All of the following courses require junior or senior standing in education in addition to the listed prerequisites.

##### 400-1 to 9 Education Honors Research
In-depth independent study under the guidance of a faculty advisor.

##### 403-3 to 4 Child Development
Factors that influence growth and development. Prerequisite: ED 200, 214, 216, 218, or equivalent.

##### 404-3 Adolescent Development
Examination of adolescence; physical development and its psychological and social concomitants; and the effect of social forces, especially school, on the adolescent. Prerequisite: ED 214, 216, 218, 220 or equivalent.

##### 405-1 to 4 Current Tendencies in Education
Consideration of current trends and theories in education; development of criteria and procedures for their evaluation and implementation.

##### 413-3 Inductive Geometry in the Elementary School
Prepares elementary teachers to teach geometrical concepts included in current K-6 mathematics programs. Emphasis on informal approach to teaching geometry using experimentation, intuition, and guided discovery. Prerequisite: ED 437, MTH 345; or equivalent; or permission of instructor.

##### 415-3 Improvement of Elementary Reading Instruction
Curriculum, methods, materials, and evaluation in reading designed to improve teachers' instructional skills. Prerequisite: ED 315, 316, 317; or permission of instructor.

##### 417-3 to 4 Elementary School Social Studies: Curriculum and Materials
Objectives, principles, and trends in elementary social studies education. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220, or equivalent.
418-3 to 4 Problem Solving in School Mathematics
 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.

419-4 to 14 Supervised Teaching: Elementary
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 fourteen 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. Completion of 126 credit hours (at least 12 of which must have been taken at Wright State), involvement in participation experiences, achievement of 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, students in special education must also complete appropriate special education courses with a grade of C or above. Students seeking kindergarten certification must also complete either EDE 411 or 412 or 414 with a grade of C or above.

420-2 to 4 Studies in English Education
(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).

421-3 Books and the Educational Program
Knowledge of a wide range of children's literature including the selection criteria and the rationale for classroom practices with children's literature. Prerequisite: ED 315, 316, 317 or equivalent.

422-1 to 3 Student Teaching Seminar
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.

423-3 Secondary School English: Curriculum and Materials
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. Corequisite: ED 323.

424-3 Secondary Speech and Drama: Curriculum and Materials
Curriculum and materials for those preparing to teach speech and drama in secondary schools; curriculum, teaching methods, class organization, producing plays, and cocurricular activities. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 323.

425-3 Modern Foreign Languages: Curriculum and Materials
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. Corequisite: ED 323.

426-2 to 5 Outdoor Education
Provides teachers and leaders seeking skills in the use of the out-of-doors as a resource program or curriculum enrichment; laboratory experiences and field work in a variety of biotic communities emphasizing ecological relationships.

429-4 to 15 Supervised Teaching: Secondary
Same as ED 419 except applied to secondary level. Requirements include completion of appropriate Phase II courses with grade of C or above and ED 464 with grade of C or above; completion of 126 credit hours (at least 12 of which must have been taken at Wright State, normally including work in both academic major and professional education); involvement in participation experiences; achievement of the currently required grade point average; and the currently required teaching field cumulative grade point average. Specific course prerequisites in academic majors vary. See description under major field. Enrollment by permission of office of laboratory experiences. Concurrent enrollment in any course other than ED 440 not permitted. Formal application must be made through the Office of the Director of Laboratory Experiences during the posted times. Concurrent enrollment in ED 440 is required.

431-3 Secondary School Science: Curriculum and Materials
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. Corequisite: ED 323.

432-3 Improving Reading in the Secondary School
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. Pre- or corequisite: ED 327.
436-3 Science, Technology, and Society as a Teaching Imperative
Curriculum and materials about issues that interface science, technology, and society now and in the future. Clinical experiences, approaches to teaching, the professional literature, and resources and facilities are emphasized.

437-3 Elementary School Mathematics: Curriculum and Materials
Instructional materials and methods of meaningful explanations of mathematics in the elementary school based on structural properties of number and numeral 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. Pre- or corequisite: ED 327.

438-3 Secondary School Mathematics: Curriculum and Materials
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. Corequisite: ED 323.

439-3 to 4 Secondary School Social Studies: Curriculum and Materials
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. Corequisite: ED 323.

440-1 to 4 The Teacher in School and Society
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 product portfolio. Graded Pass/Fail. Corequisite: ED 419 and/or 429.

447-4 Teaching in the Public School
Study, observation, and evaluation of practices. Open only to students who have completed the pertinent curriculum and materials course and are seeking a waiver of all or part of student teaching on the basis of full-time teaching experience.

448-3 Improvement of Social Studies Instruction
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.

450-3 Computer Science: Curriculum and Materials
Prepares teachers to teach computer science in a precollege setting. A study of curriculum, teaching methodology, and the computer teacher's role in computer science, K-12. Completion of a minimum of 30 credit hours in computer science, including CS 400, is required. Prerequisite: ED 214, 216, 218, 220, or equivalent: ED 302, 327. Corequisite: ED 323.

459-9 Practicum in Education
Supervised teaching experience for students who have completed student teaching (or its equivalent) and are seeking certification in another field. Topics vary.

460-1 to 4 Practicum in English Education
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.

464-3 to 4 Evaluation
Evaluation of learning including selected forms of measurement and interpretation of data; sociometric techniques, anecdotal records, and testing. Prerequisite: ED 214, 216, 218, 220 or permission of instructor.

470-1 to 6 Curriculum and Instruction Workshop
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.

490-3 to 12 Internship in the School
Students assume major responsibility for a group of pupils in a classroom setting for an academic year while having the support and guidance of school and university personnel.

Educational Leadership/EDL
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

410-1 to 4 Paraprofessional Staff Training
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.

411-1 to 4 Student Development for Residence Life Programs
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.

Educational Technology/EDT
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

110-1 Using the Library
Presents basic approaches for using the Wright State library. Includes library classification, COLS, indexes, and the introduction to selected reference sources.

210-1 Using Business Information Sources
Survey course covering standard business bibliography and reference information including government documents.
280-3 Classroom Applications of Computers
Instruction in the use of computer-based technology in K-12 instruction. Focus is on selecting courseware and integrating it into lessons.

335-3 Business Mathematics for Business Teachers
Designed for business education majors to review, demonstrate, and develop teaching strategies applicable to consumer math. Teaching methods integrated with the basic math fundamentals and other math applications.

370-1 to 4 Independent Study
Advanced individual study in an area not available through regular course offerings. May be taken for letter grade or pass/unsatisfactory.

434-4 Business Education: Curriculum and Materials in Basic Business Subjects
Acquaints students with business education philosophy, objectives, and curricula on the secondary level of instruction. Curriculum and materials in basic business subjects, bookkeeping, data processing, and sales communication. Completion of two-thirds of major content field is required. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 323.

435-3 Business Education Curriculum and Materials: Typewriting, Keyboarding, Word Processing, and Office Procedures
Curriculum, methods, and materials in typewriting, keyboarding, word processing, and office procedures in secondary schools; current trends in teaching these skills are also covered. Field/clinical experiences required. Pre- or corequisite: CHT 433, OA 213.

435-4 Business Education Curriculum and Materials: Shorthand, Transcription, and Secretarial Procedures
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. Pre- or corequisite: OA 203, 213. Corequisite: ED 327.

436-2 Production of Instructional Materials
A nontechnical course with emphasis on production of locally made materials for classroom use including mounting, lettering, computer graphics, and transparency production.

445-3 Storytelling Principles
Students learn storytelling principles to include story selection, various styles of presentation, and methods of planning.

455-4 Television Production
Survey of television production from a single-camera, remote production perspective, including use of editing equipment.

463-3 Survey of Adolescent Literature
Study of books appropriate for students ages 12-19. Survey and evaluation of the literature, and studies of reading interests and issues related to this field of literature.

470-1 to 6 Workshop in Educational Technology and Vocational Education
Intensive, practical study in a selected area of educational or applied technology. Titles vary.

485-3 Computers for Educators
Computer software and hardware systems and their uses are discussed with emphasis on their effects on education and the teacher.

487-4 Introduction to BASIC for Educators
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.

491-1 to 12 Library/Media Practicum in the Elementary School
Supervised student teaching in an elementary public school library media center. Prerequisite: Certification requirements completed.

492-1 to 12 Library/Media Practicum in the Secondary School
Supervised student teaching in a secondary public school library media center. Prerequisite: Certification requirements completed.

Education-Early Childhood

Educators-ED

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

230-2 Early Childhood Education Foundations
History, program models, social issues affecting programs, state and federal involvement and regulation; development of professionals in programs for children birth to eight years. Concurrent enrollment in ED 221 field placement K-3.

231-4 Developmentally Appropriate Programming ECE
Introduction to appropriate environment, curriculum content, scheduling, developmental evaluation, teaching strategies, and group management in the early childhood classroom. Concurrent enrollment in ED 321 and field placement required in K-P setting. Prerequisite: ED 214, 216, 218, 220, EDE 230 or equivalent.

303-4 Social Studies/Social Development in ECE
Objectives, principles, trends, and appropriate practices in social studies and social development for ECE. Field/clinical experience required. P-K placement. Prerequisite: EDE 230, 231, or permission of instructor.

309-4 Emerging Literacy in Early Childhood
Understanding the roots of language learning and the reading and writing behaviors common to each age group. Designing and implementing readiness and literacy instruction. Field placement in classroom with children K-P. Prerequisite: ED 214, 216, 218, 220.

312-4 Math and Science in Early Childhood Education
Examination of the theoretical basis for and appropriate content of curriculum in math and science for children age three to eight. Field placement required in P-K setting one to two days per week. Prerequisite: ED 214, 216, 218, 220.
401-3 Parents and the Schooling Process
Orientation to the role of the family in the education of the child, birth to age 8, including the effects of various parental behaviors, family composition, and types of parent involvement in child care and schools which affect development and learning of children. Prerequisite: ED 214, 216, 218, 220.

470-1 to 4 Workshop in Early Education
Intensive practical study in a selected area of early education. May be taken for letter grade or pass/unsatisfactory.

Education-Special Education/EDS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

441-3 Mental Retardation and Developmental Disabilities
Causes and effects of mental retardation and related developmental disabilities in home, school, and community settings. Prerequisite: ED 214, 216, 218, 220; ED 403 or equivalent.

442-4 Curriculum, Methods, and Materials for the Mildly Handicapped
Practices and procedures used in developing elementary and secondary curricula for the mildly handicapped. Includes academic adaptations and social and motor skills development as applied to development and implementation of the IEP. Prerequisite: ED 214, 216, 218, 220; EDS 455 or equivalent. Corequisite: ED 323.

443-3 Introduction to Augmentative Communication
Introduces etiology, problems, and needs of nonspeaking individuals. Hands-on experiences are required using augmentative aids and devices with multiply handicapped individuals. Prerequisite: EDS 451 or experience with multiply handicapped individuals.

444-3 Instructional and Behavioral Management of Exceptional Individuals
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, EDS 451 or 455 (EDS 451 and 455 may be taken concurrently).

445-3 Career Education and Occupational Training for Exceptional Individuals
Role of occupational training in the curriculum; relationships with the world of work; problems of organizing and administering; and methods and techniques used in developing occupational interests and abilities at various levels. Prerequisite: EDS 451 or 455 or RHB 301.

451-3 Nature and Needs of the Multiply Handicapped
Reviews etiological aspects; historical, educational, and training programs; and concerns and issues related to multiply handicapped individuals including mildly, moderately, severely, and profoundly retarded or physically handicapped. Prerequisite: ED 220.

452-3 Education of Individuals with Physical, Sensory, and Motor Disorders
Overview of the etiology and educational implications of physical disabilities, sensory deficits, and communication disorders. Emphasis on psycho-educational, physical, and medical needs of these individuals. Prerequisite: ED 220 or EDS 451 or permission of instructor.

453-3 Curriculum, Methods, Materials, and Adaptive Equipment for Multiply Handicapped
Reviews organizations, methods, materials, and techniques for educating and training multiply handicapped children, youth, and adults. Related professional organizations and community services are reviewed. Prerequisite: EDS 444, 451, 452. Corequisite: ED 323.

454-3 Administration and Interpretation of Educational Data
Students learn to administer and interpret formal and informal educational assessment instruments and to communicate assessment data to parents and colleagues. Prerequisite: EDS 455.

455-2 to 4 Nature and Needs of the Mildly Handicapped
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 218, 220.

456-4 Clinical Practice in Remediation
Supervised clinical practice in the diagnostic teaching of basic academic and social skills including learning and study strategies. Prerequisite: ED 317 or ED 432, 437, EDS 442, 454, 455. Non-special education majors do not need EDS 442 and 455.

459-3 Communication and Consultation Skills for Special Educators
Techniques of collaborative consultation needed to enhance communication with exceptional individuals, parents, and educational team members. Prerequisite: EDS 451 or 455.

470-1 to 4 Workshop in Special Education
Intensive practical study in a selected area of special education. May be taken for letter grade or pass/unsatisfactory.

Electrical Engineering/EE
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

240-4 Principles of Electrical Engineering
Provides a practical introduction to important applications, and hands-on experience with components and assembly of electrical systems. Laboratory experience is emphasized.

260-4 Digital Computer Hardware/-switching Circuits
(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: 3 hours lecture, 2 hours lab. Prerequisite: CS 142, 240, CEG 220, or EGR 153.
301-4 Circuit Analysis I
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. Co- or post-requisite: EE 302.

302-1 Circuit Analysis I Laboratory
Computer-assisted analysis, KCL circuits, operational amplifiers and circuits, Thévenin and Norton equivalents, maximum power transfer, and AC networks. Pre- or corequisite: EE 301.

303-3 Circuit Analysis II
Circuit review, alternating current concepts, computer-aided circuit analysis, two-port networks, power. Prerequisite: EE 301 and 302. Co- or post-requisite: EE 304.

304-1 Circuit Analysis II Laboratory
Application of AC concepts, computer-aided circuit analysis, two-port networks, and power theory. Prerequisite: EE 301 and 302. Pre- or corequisite: EE 303.

321-4 Linear Systems I
Considers systems in a broad context including linear, non-linear, 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.

322-4 Linear Systems II
Discrete time signals and systems, the z-transform, input/output theory, discrete Fourier transform, BK and FIR filter design, relationships, and sampling. Prerequisite: EE 321.

325-4 Numerical Methods for Electrical Engineers
Root location, polynomial interpolation, numerical methods for linear systems analysis, matrix methods in circuit analysis, frequency domain circuit analysis techniques. Prerequisite: EE 322, MTH 253, and CEG 220 (or proficiency in Pascal or FORTRAN).

331-3 Electronic Devices
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, 302, 303, 304.

345-4 Electromagnetics
Electrostatics and magnetism: induced electromotive force. Maxwell's equations and their physical interpretation and application. Prerequisite: EE 301, 302, MTH 232.

346-4 Transmission Lines, Waveguides, and Radiating Systems
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.

401-3 Electronic Circuits and Devices
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, 302. Corequisite: EE 402.

402-2 Electronic Circuits and Devices Laboratory
Experiments in simple circuits, diode and transistor circuits, operational amplifiers, and simple microprocessors. Prerequisite: EE 301, 302. Corequisite: EE 401.

413-3 Control Systems I
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, EE 321. Co- or post-requisite: EE 414.

414-1 Control Systems I Laboratory
Application and testing of control systems theory with electromechanical systems. Pre- or corequisite: EE 413.

415-3 Control Systems II
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, 414.

416-1 Control Systems II Laboratory
Application and testing of control systems theory with electromechanical systems. Prerequisite: EE 413, 414. Pre- or corequisite: EE 415.

417-4 Digital Control Systems
Samples spectra and aliasing, analysis and design of digital control systems using root locus and transform techniques; discrete equivalents of continuous controller and quantization effects. Combination lecture/lab. Prerequisite: CEG 220, 411, EE 322, 415, 416.

418-4 Control Systems Design
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. 2 hours lecture, 4 hours lab. Pre- or corequisite: EE 417.

419-4 Introduction to Fuzzy Logic Control
(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. 3 hours lecture, 2 hours lab. Prerequisite: EE 413, 414.

421-4 Communication Theory
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, WBFM) and digital (BPSK, AK, FSK) modulation techniques are also discussed and analyzed. Prerequisite: EE 321.
Electrical Engineering

430-4 Distributed Systems
Distributed constants and traveling waves in various types of physical systems. AC steady-state in distributed systems; phase and group velocities; and reflections, standing wave ratios, and impedance matching techniques. Prerequisite: EE 322, MTH 232.

431-3 Electronic Circuits
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, multi-stage and feedback amplifiers. Prerequisite: EE 321, 331. Co- or postrequisite: EE 434.

434-2 Electronic Circuits Laboratory
Applications of diodes and operational amplifiers in analog circuits, design of bias circuits; single and multiple stage amplifier circuits; feedback amplifiers; circuits to meet frequency response specifications; output stages. Prerequisite: EE 331. Pre- or corequisite: EE 431.

435-3 Network Synthesis and Design

436-4 Digital Signal Processing: Theory, Application, and Implementation
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.

444-4 Linear Integrated Circuits
Theory and applications of linear integrated circuits. Topics include ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators. 3 hours lecture, 2 hours lab. Prerequisite: EE 431, 434.

445-4 Microwave Circuit Design
Review of Smith chart, introduction to microstrip lines, impedance matching, power gain equations, stability considerations, design methods for amplifiers and oscillators. CAD is used. Prerequisite: EE 346.

446-4 Antenna Theory and Design
Linear dipole antennas, antenna arrays, thin-wire antennas, moment method analysis examples (vee dipole, folded dipole, etc.), 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.

447-4 Pulse and Digital Circuits
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 MOS, CMOS, TTL, and ECL logic families. Design of digital interface and buffer circuits. Transmission line effects in digital applications. 3 hours lecture, 2 hours lab. Prerequisite: EE 431, 434.

451-4 Digital Systems Design
(Also listed as CEG 360.) Design of digital systems. Topics include digital arithmetic, register-level design, memory devices and their logic, and controller and processor design. 3 hours lecture, 2 hours lab. Prerequisite: EE 260.

452-4 Standard Cell VLSI Design Techniques
(Also listed as CEG 452.) Standard cell VLSI design techniques. Topics include introduction to VLSI, MOS transistors, CMOS logic circuits, standard cell libraries, cell usage, schematic capture and simulation, circuit testing, test program generation. Prerequisite: EE 431, 434, and EE 451/CEG 360.

453-4 VLSI Design
(Also listed as CEG 453.) 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, 434, EE 451/CEG 360.

454-4 VLSI Circuit Design
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. 2 hours lecture, 4 hours lab. Prerequisite: EE 454.

455-4 Introduction to Robotics
(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 and MTH 253; proficiency in Pascal, C, or FORTRAN programming.

456-4 Digital Integrated Circuit Design with PLDs and FPGAs
(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.

459-4 Integrated Circuit Design Synthesis with VHDL
(Also listed as CEG 459.) Application of VHDL 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 and Xilinx) will be used in the laboratory portion of the course. Prerequisite: CEG 220, C programming or equivalent and EE 260.
473-4 Communication Systems Design I

The concept of probability is reviewed and extended to the analysis of random process theory. Specific topics include the central limit theorem and the study of narrowband Gaussian noise. A complete noise study of the AM and FM analog modems is made. The matched filter is also introduced. 3 hours lecture, 2 hours lab. Prerequisites: STT 363, EE 421.

474-4 Communication Systems Design II

Noise figure analysis and communication link design are introduced. Nyquist signaling and equalization are discussed. Information theory and error correcting coding are considered. Also provides support for the communication design project. Prerequisite: EE 473.

475-3 Introduction to Radar Systems

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.

476-4 Communication System Design III

A project-oriented communication design course involving a problem definition stage, an analysis and design stage, and a final implementation stage. Specific topics include project selection, planning and management, system specification, design reviews, written and oral reports, and final system testing. 2 hours lecture, 4 hours lab. Prerequisite: EE 474.

480-1 to 4 Selected Topics in Electrical Engineering

Prototype offering for a new course in electrical engineering. Topics and prerequisites vary.

499-1 to 4 Special Problems in Engineering

Special problems in advanced engineering. Topics vary.

Engineering/EGR

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-1 Engineering and Computer Science Orientation

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 career strategies, team building skills, interpersonal communication, engineering ethics and honors, student clubs, cooperative education opportunities, and career guidance.

153-4 FORTRAN Programming

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. Corequisite: MTH 229.

199-1 to 4 Special Topics in Engineering

Topics may vary. May be taken for letter grade or pass/unsatisfactory.

335-3 Technical Communications for Engineers and Computer Scientists

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, 102, and sophomore standing.

433-4 Reliability Analysis

Reliability measures: probability distribution models, hazard functions, failure rates, model estimation. Static reliability models: series, parallel, and combination systems; redundancy techniques. Probabilistic engineering design and its relation to other aspects of design. Reliability computations for several probabilistic models used in mechanical and electrical engineering design. Other topics covered include reliability estimation and allocation, sequential life testing and failure modes, and effects analysis. Prerequisite: STT 363.

480-3 Engineering Economy

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.

482-3 Engineering Fundamentals

A review of the fundamental concepts covered in an undergraduate 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.

499-1 to 5 Special Problems in Engineering

Special problems in advanced engineering. Topics vary. May be taken for letter grade or pass/unsatisfactory.
Engineering Physics/EP

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

231-1 Contemporary Areas of Engineering Physics
Specification of areas to which engineering physics is relevant. Discussion of specific problems in fields such as space science, fluid and plasma dynamics, thermal science, lasers, instrumentation, design utilization of material properties, and nuclear engineering.

300-3 Properties of Semiconductor Materials
(Also listed as PHY 300.) Covers crystal structure; selected topics in quantum theory; electron band structure; charge carriers in semiconductors; generation, recombination, and motion of charge carriers; electrical and optical properties; and structure and characteristics of p-n junctions. Prerequisite: PHY 240, 242, 244 and CHM 121.

301-3 Semiconductor Device Physics
(Also listed as PHY 301.) Covers structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Includes design and computer modeling of devices. Prerequisite: EP 300/PHY 300.

302-3 Semiconductor Device Processing
(Also listed as PHY 302.) Survey of the individual processes used in fabricating semiconductor devices. Introduction of these processes to produce MOS and bipolar structures. Computer design aids. Prerequisite: EP 300, 301 or PHY 300, 301 or ME 370 or permission of instructor.

322-4 Applied Optics
(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. 3 hours lecture, 2 hours lab. Prerequisite: MTH 253, PHY 244 or equivalent.

432-3 Lasers
(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 242, 244, PHY 260 or CHM 121.

494-3 Engineering Physics Projects
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.

499-3 Honors Engineering Physics Projects
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.

English/ENG

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

101-4 Freshman Composition
Introduces the writing process and its applications. Stresses planning, drafting, and revising for greater focus, development of subject, and audience awareness, as well as clarity, conciseness, and correctness. Placement based on performance on placement essay examination.

102-4 Freshman Composition
Continues focus on writing process, stressing principles of argumentation and academic research techniques. Prerequisite: Grade of C or better in ENG 101.

204-3 Great Books: Literature
Introduction to selected masterpieces of poetry, drama, and fiction from the Western literary tradition of the Greeks to the twentieth century, viewed in their historical context and read for their enduring interest.

Departmental Courses

Unless otherwise specified, successful completion of freshman English is the minimum prerequisite for all major courses. Bachelor of Arts degree candidates majoring in English must meet the minimum major requirements from courses in this group. For majors, ENG 255 and 256 are prerequisite to enrollment in other literature courses in this group.

094-4 English as a Second Language: Speaking
Basic course in spoken English, both production and comprehension. For non-native speakers of English only.

097-4 English as a Second Language: Basic Writing
Basic course in written communication with an emphasis on sentence structure. For non-native speakers of English only.

098-4 English as a Second Language: Advanced Writing
Course in written communication with an emphasis on grammatical structures, organizational skills, and topic development. For non-native speakers of English only.

101-4 Freshman Composition
Introduces the writing process and its applications. Stresses planning, drafting, and revising for greater focus, development of subject, and audience awareness, as well as clarity, conciseness, and correctness. Placement based on performance on placement essay examination.

102-4 Freshman Composition
Continues focus on writing process, stressing principles of argumentation and academic research techniques. Prerequisite: Grade of C or better in ENG 101.

190-3 Issues and Ideas in Literature
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.
199-1 to 4 Topics in English
Problems, approaches, and topics in the fields of English. Topics vary. May be taken for letter grade or pass/unsatisfactory.

201-3 Contemporary Literature
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.

202-3 The Literary Tradition
Readings in British and American literature; for example, Shakespeare, American Masterpieces, British Novel, and Readings in Biography. Prerequisite: ENG 102.

203-3 World Literature
Readings in world literature; for example, the Literature of Africa, the International Best Seller, and the Hero in World Myth. Prerequisite: ENG 102.

204-3 Great Books: Literature
Introduction to selected masterpieces of poetry, drama, and fiction from the Western literary tradition of the Greeks to the twentieth-century, viewed in their historical context and read for their enduring interest.

205-3 Afro-American Literature

210-3 Introduction to Poetry
Poetry as a type of literature together with an introduction to various approaches to the enjoyment of poetry. Prerequisite: ENG 102.

211-3 Introduction to Fiction
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.

212-3 Introduction to Drama
Introduction to the study and analysis of drama including differences among plays of different periods. Prerequisite: ENG 102.

240-3 Intermediate Composition
Improvement of writing skills with special attention to individual writing weaknesses. Includes a review of basic writing principles. Prerequisite: ENG 102.

250-4 The Study of Literature I
Introduction to the discipline of English, with a focus on the study of poetry and the writing of critical papers on literary topics. Prerequisite: ENG 102.

251-4 The Study of Literature II
Introduction to the discipline of English, with a focus on the study of narrative and the techniques of literary analysis and research. Prerequisite: ENG 250 or 255 or 256.

257-3 Basic News Writing
(Also listed as COM 256.) Introduction to writing for print media. Structure and organization of news stories. Requires reporting in the field.

291-3 Introduction to Creative Writing
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. (Previously listed as ENG 301.)

302-4 Poetry Writing
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.

303-4 Short Story Writing
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.

304-4 Dramatic Writing
(Also listed as THI 304.) Theory and practice of techniques of dramatic writing emphasizing writing of original plays. Prerequisite: ENG 102.

330-4 Business Writing
Written business and organizational communication; attention to various forms including short reports and informal oral presentations. Prerequisite: ENG 102.

333-3 Fundamentals of Technical Writing
Survey of the fundamental principles and skills used in scientific and technical writing. Prerequisite: ENG 102.

340-4 Language for Elementary Teachers
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.

341-3 Advanced Composition for Secondary Teachers
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.

342-3 Advanced Composition for Elementary Teachers
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.

343-4 Advanced Composition
Emphasis on sophisticated techniques of expository writing and the refinement of style. Prerequisite: ENG 102.

344-4 Research Writing
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.
347-3 Desktop Publishing and Technical Graphics
Introduction to the design and illustration of technical documents through labs requiring use of word processing and desktop publishing systems.

350-4 British and American Literature: History
Representative works from major periods of British and American Literature, read with attention to their historical background and cultural contexts. Prerequisite: ENG 102.

351-4 British Texts: Medieval to 17th Century
Representative works of such major English writers of the medieval period and the sixteenth century as Chaucer, the Pearl-poet, Malory, Sidney, Spenser, Marlowe, and Shakespeare. Prerequisite: ENG 102.

352-4 British Texts: 17th to 18th Centuries
Representative works of such major British writers of the seventeenth and eighteenth centuries as Donne, Jonson, Milton, Dryden, Congreve, Swift, Addison, Steele, Pope, Fielding, Gray, and Johnson. Prerequisite: ENG 102.

353-4 British Texts: 19th Century
Representative works of such major Romantic and Victorian writers as Blake, Austen, Wordsworth, Coleridge, Keats, Shelley, Byron, Carlyle, Dickens, Tennyson, Browning, and Arnold. Prerequisite: ENG 102.

354-4 British Texts: 20th Century
Representative works of such major English writers of the modern period as Hopkins, Hardy, Housman, Shaw, Conrad, Yeats, Joyce, Lawrence, Woolf, and Eliot. Prerequisite: ENG 102.

355-4 American Texts: Earlier 19th Century
Representative works of such major American writers before the Civil War as Cooper, Poe, Emerson, Thoreau, Hawthorne, Melville, and Whitman. Prerequisite: ENG 102.

356-4 American Texts: Later 19th Century
Representative works of such major American writers from the Civil War to World War I as Dickinson, Twain, James, Howells, Wharton, Crane, and Dreiser. Prerequisite: ENG 102.

357-4 American Texts: 20th Century
Representative works of such major American writers since the twenties as Fitzgerald, O'Neil, Frost, Hemingway, Faulkner, and Stevens. Also includes selected contemporary writers. Prerequisite: ENG 102.

359-4 Post-Colonial Texts
Representative works of such major anglophone writers from around the world as White, Atwood, Soyinka, Naipaul, Achebe, Gordimer, Walcott, and Fugard. Prerequisite: ENG 102.

364-4 Communication Graphics
(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.

366-4 Advanced News Writing
(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: ENG 257 or COM 256.

392-4 Poetry Writing Workshop
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 permission of instructor.

393-4 Fiction Writing Workshop
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 permission of instructor.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of English. Topics vary. Prerequisite: ENG 102.

400-3 Advanced Technical Writing
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 347.

402-3 Technical Editing
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.

405-1 to 6 Topics in Technical Writing
Courses, seminars, or workshops in specialized topics relating to technical writing. Prerequisite: ENG 400 or permission of instructor.

Note: The following series of "Studies" is intended to provide a wide range of courses approaching literature from a variety of significant viewpoints. Because a large number of courses can be offered under each "Studies" number, students should consult the department for a list and brief description of the particular courses that will be offered during a given academic year.

410-4 Studies in English Literary History
Intensive study of English literature from the point of view of literary history. Intended to develop an understanding of the historical approach to literature and an ability to deal critically with historical generalizations about literary periods and movements. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350-359 sequence.

420-4 Studies in American Literary History
Intensive study of American literature from the point of view of literary history. Intended to develop an understanding of the historical approach to literature and an ability to deal critically with historical generalizations about literary periods and movements. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350-359 sequence.

430-4 Studies in Major English Writers
Intensive study of the work of major English authors. Intended to develop an understanding of individual works of literature in the context of an author's life and total literary production. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350-359 sequence.
440-4 Studies in Major American Writers
Intensive study of the work of major American authors. Intended to develop an understanding of individual works of literature in the context of an author's life and total literary production. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

450-4 Studies in Literary Types and Modes
Intensive study of important literary forms such as poetry, the novel, comedy, tragedy, satire, and the epic. Intended to develop an understanding of the formal aspects of literature as approached theoretically, analytically, and historically. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

454-4 Feature Story Writing
(Also listed as COM 454.) Finding, writing, polishing, and marketing feature material. Prerequisite: ENG 257 or COM 256 or permission of instructor.

458-4 Editing for the Media
(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 ENG 251; at least one of the ENG 350–359 sequence.

460-4 Studies in Literary Themes
Intensive study of literary works in terms of significant and recurring literary themes as they can be traced in various eras, cultures, and literary traditions. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

470-4 Studies in Literary Criticism
Intensive study of theoretical, practical, and historical aspects of literary criticism in order to develop an understanding of important critical questions and approaches. Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

471-1 to 6 Workshop
Intensive study of selected special topics or problems to meet the particular needs of participating students. Titles vary.

478-4 Introduction to Linguistics
Survey of major branches of English linguistics; present-day phonology, morphology, syntax, and their historical development; and social and psychological approaches to language. Prerequisite: ENG 102.

479-4 History of the English Language
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.

490-4 Studies in World Literature
Intensive study, in English, of non-European literature, focused nationally, regionally, cross-culturally, thematically, or generically (e.g. Caribbean fiction, modern Japanese literature, and Commonwealth literature). Prerequisite: ENG 255/256 or ENG 251; at least one of the ENG 350–359 sequence.

491-1 to 3 Directed Reading
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.

492-4 Poetry Writing Seminar
Advanced students work closely with instructor on writing and revision, leading to the creation of professional and publishable poetry. Reading and discussion of contemporary poetry and poetics. May be repeated twice for credit. Prerequisite: Permission of instructor.

493-4 Fiction Writing Seminar
Advanced study and practice of the techniques and forms of fiction of any length, with emphasis on producing fiction of professional and publishable quality. May be repeated twice for credit. Prerequisite: Permission of instructor.

495-4 Internship
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.
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COURSES

Environmental Health Sciences

English

Finance

498-2, 499-2 English Honors Tutorial
Two quarter sequence for senior English majors who are doing an English honors project.

Environmental Health Sciences/EH

Note: See quarterly class schedule or departmental advisor for further enrollment requirements, or special course information.

292-1 Introduction to Environmental Health
Introduction to the role of the environmental health profession in meeting current problems in public health and environmental quality.

360-3 Environmental Aspects of Water Quality
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.

362-3 General Environmental Health
Relationship of physical/chemical/biotic environments to design/operation of systems and procedures employed in maintenance/promotion of a quality, healthful human environments. Emphasis: food/dairy sanitation; solid waste; institutional/housing/recreational sanitation; and vector control.

364-3 Air Pollution and Hazardous Wastes
Theory, design, and operation of systems, facilities, and procedures employed in maintenance and promotion of a quality, healthful environment with emphasis on air pollution, radiation, and hazardous wastes.

366-4 Environmental Sciences Internship
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. Prerequisite: Three 300-level EH courses.

368-4 Hazardous Materials Health and Safety
Covers the operation of managing hazardous materials and emergency response in the workplace or at spills or hazardous waste sites. Prerequisite: CHM 123.

431-3 Risk Assessment
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 2 BIO courses and completion of freshman chemistry required.

432-3 Risk Assessment II
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.

461-2 Problems in Environmental Health
Seminar/workshop in professional aspects of environmental health. For environmental health majors only. Prerequisite: EH 366 or permission of instructor.

462-3 Epidemiology and Community Health
Communicable and occupational diseases of contemporary importance; includes epidemiological investigation, environmental considerations, and control procedures. Prerequisite: EH 360 and 362 or permission of instructor.

463-3 Public Health Organization
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.

466-3 Occupational Health and Safety
Introduction to accident recognition, evaluation, and control in the work environment. Emphasis on methods of hazard recognition and control management. Prerequisite: CHM 123.

467-2 Occupational Health and Safety Laboratory
Introduction to accident recognition, evaluation, and control in the work environment by hands-on equipment use. Methods of inspection, accident investigation, and evaluation of accident programs are stressed. Prerequisite: CHM 123.

468-3 Industrial Hygiene I
Introduction to industrial hygiene. Emphasis on routes of entry into the human body and physiological effects of industrial pollutants. Prerequisite: CHM 123.

469-2 Industrial Hygiene I Laboratory
Introduction to industrial hygiene. Methods of measuring toxic effects and providing adequate protection discussed and demonstrated. Prerequisite: CHM 123.

Finance/FIN

Note: See quarterly class schedule or departmental advisor for further enrollment requirements, or special course information.

205-3 Personal Financial Management
Provides knowledge that helps nonbusiness 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.

280-3 Special Topics in Finance
Seminar in a finance topic of current and timely interest. Topics and prerequisites vary. For nonmajors only.

Advanced Courses

All of the following courses require junior standing in addition to the listed prerequisites.

301-3 Business Finance I
Introduction to the basic concepts, principles, and analytical techniques of financial management. Topics include financial planning and analysis, risk and returns, time value of money, and capital budgeting. Prerequisite: ACC 203, CS 205, EC 201, 202, 203, MS 202.
302-3 Business Finance II
Continuation of FIN 301. Emphasis on financial decisions and cost of capital. Prerequisite: FIN 301.

303-3 Case Problems in Financial Management
Application of basic financial concepts and analytical techniques to financial decision making. Extensive use of cases. Prerequisite: FIN 302.

305-3 Personal Financial Planning
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.

331-3 Real Estate Principles and Practices
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.

332-3 Real Estate Law
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.

351-3 Risk and Insurance
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.

401-3 Investing in Securities
Introduction to the theory and practice of investing in stocks, bonds, and other securities. Prerequisite: FIN 302, EC 301.

402-3 Seminar in Investments
Advanced treatment of the theory and practice of investing. Provides opportunities for individual investigation of selected topics. Prerequisite: FIN 401.

411-3 Management of Financial Institutions
Analysis of issues relating to the financial management of financial institutions. Prerequisite: FIN 302, EC 301.

420-3 Seminar in Financial Management
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 303.

421-3 Working Capital Management
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.

433-3 Real Estate Finance
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.

434-3 Real Estate Valuation and Appraisal
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, 331.

435-3 Investing in Real Estate
Explores the theory and practice of real estate investment analysis as it relates to personal financial planning objectives. Prerequisite: FIN 302, 331; ACC 441.

452-3 Life and Health Insurance
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.

453-3 Property and Liability Risk Management
Study of the concepts and techniques of property and liability risk management from the perspective of both individuals and business firms. Prerequisite: FIN 351.

461-3 Retirement Planning and Employee Benefits
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 302, 351; ACC 441.

462-3 Estate Planning
Provides a theoretical and practical approach to estate planning. Includes estate and gift taxes, wills, trusts, and estate planning techniques. Prerequisite: FIN 302, 351, ACC 441.

463-3 Seminar in Financial Services
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.

470-3 or 6 Practicum in Financial Planning
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, 401, 461, ACC 441, and permission of instructor.

477-1 to 3 Finance Studies
Independent study in selected areas of finance or financial services.

478-3 Honors: Independent Study in Finance
Research in finance for fulfillment of the Honors Program project requirement.

480-1 to 6 Special Topics in Finance
Seminar in a finance topic of current and timely interest. Topics and prerequisites vary.
COURSES

Finance

French

481-3 or 6 Internship in Finance
One-quarter faculty-supervised internship in finance. Students work in a firm or public agency, participate in seminars, and submit reports. Topics vary.

490-3 International Financial Management
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 302, EC 301.

French/FR

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-4, 102-4, 103-4 First-Year French
Study of the vocabulary and structure of the French language; practice in conversation, reading, and writing.

111-4 Essentials of French
Introduction to French with emphasis on speaking the language.

150-4 French Grammar Review
A thorough review of French grammar with an emphasis on oral practice.

201-4, 202-4, 203-4 Second-Year French
Grammar review, reading and discussion of selected texts, with practice in speaking and writing the language. Prerequisite: For 201, FR 103 or equivalent; for 202, FR 201 or equivalent.

Advanced Courses

311-4, 312-4 French Conversation
Practice in oral use of French emphasizing the culture of the French-speaking world. Prerequisite: FR 203 or equivalent.

321-4, 322-4 French Composition
321: writing techniques and grammar review; 322: explication de texte; oral and written stylistic analyses. Prerequisite: FR 203 or equivalent.

323-4 French Composition
Oral and written composition in French; translations from English into French. Further grammar study. Prerequisite: FR 203 or equivalent.

331-4, 332-4 Survey of French Literature
331: Middle Ages, sixteenth and seventeenth centuries. 332: eighteenth, nineteenth, and twentieth centuries. Prerequisite: FR 312 and 322 or permission of instructor.

FR 312, 322, and 332 or permission of instructor are prerequisites for the following advanced courses:

351-4 French Civilization
Study of the main currents of French civilization with emphasis on the development of literary and cultural aspects. Conducted in French.

361-2 French Phonetics
Pronunciation, diction, and intonation. Corrective exercises and laboratory work.

381-1, 382-1, 383-1 Applied Elementary French Instruction
French majors assist elementary course instructors in conducting classes. For French majors only.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in a field of French. Topics vary.

403-4 Advanced Studies: Language/Civilization
Conducted in French. Topics vary.

421-4 Literature of the Middle Ages
Les Chansons de Geste: Roland, Guillaume; le roman de Tristan, Chretien de Troyes; le roman de Renard; theatre; and le roman de la Rose. Prerequisite: FR 322, 332; or permission of instructor.

422-4 Villon to Chénetier
Three centuries of French poetry: Villon, Scève, Marot, Du Bellay, Ronsard, d'Aubigné, Malherbe, La Fontaine, Boileau, Voltaire, and Chénier. Prerequisite: FR 322, 332; or permission of instructor.

423-4 17th- and 18th-Century Novel
Mme. de La Fayette, Scarron, Fénelon, Montesquieu, Lesage, Prévéost, Diderot, and Laclos. Prerequisite: FR 322, 332; or permission of instructor.

441-4 Libertines and Moralists: From Rabelais to Voltaire
Currents of skepticism and humanism in the intellectual history of French. Major authors: Rabelais, Montaigne, C'yrano de Bergerac, Saint-Evremond, La Bruyère, La Rochefoucauld, Bayle, Fontenelle, Diderot, and Voltaire. Prerequisite: FR 322, 332; or permission of instructor.

442-4 17th- and 18th-Century Theatre
Works of Corneille, Molière, Racine, Marivaux, Diderot, Voltaire, and Beaumarchais. Prerequisite: FR 322, 332; or permission of instructor.

443-4 The Enlightenment
History of political and social ideas in eighteenth-century France. Based principally on works of Montesquieu, Diderot, Voltaire, and Rousseau. Prerequisite: FR 322, 332; or permission of instructor.

450-1 to 4 Independent Undergraduate Research
Topics vary.

451-4 Romanticism from Rousseau to Hugo
Includes Bernardin de Saint-Pierre, Chateaubriand, Mme. de Staël, Nodier, Lamartine, Vigny, Musset, and Nerval. Prerequisite: FR 322, 332; or permission of instructor.

452-4 19th-Century Novel
Chateaubriand, Consul, Stendhal, Balzac, Flaubert, Zola, and France.

453-4 Poetry from Baudelaire to Breton
Symbolists, Decadents, and Surrealists.

454-4 19th-Century Short Story
Intensive study of such authors as Balzac, Stendhal, Nodier, Mérimée, Flaubert, Maupassant, and Huysmans. Prerequisite: FR 322, 332; or permission of instructor.

462-4, 463-4, 464-4 20th-Century Literature
462: The Novel. 463: Drama. 464: Poetry. Prerequisite: FR 322, 332; or permission of instructor.
Geography/GEO

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Lower Division Courses

149-4 Global Awareness through Map Study
Introduction to maps and their uses as a means to gain global awareness.

201-4 Principles of Physical Geography
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.

202-4 Principles of Cultural Geography
Study of major cultural elements of the human environment including examination of their spatial interactions and factors influencing their location and distribution.

203-4 Principles of Economic Geography
Examination of the principal geographic factors influencing human activities related to production, exchange, and consumption of goods and services.

Upper Division Courses

311-4 Urban Planning I: Introduction to Urban Planning
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.

312-4 Urban Planning II: Principles of Planning
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. Prerequisite: GEO 311 or permission of instructor.

322-4 Principles of Geomorphology
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 or permission of instructor.

325-4 World Regional Geography
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.

330-4 Climatology I
Observation, measurement, and analysis of climatic elements and controls, climatic classification, and relation of climate to human economic and social activities.

331-4 Meteorology
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.

334-4 Climatology for Earth Science Teachers
Interaction of weather and climate with various earth systems. Includes observation, measurement, and analysis of meteorological elements and controls. For nonmajors only.

340-4 Urban Geography
General nontechnical introduction to urban geography focusing on major geographic concepts and principles relating to location, function, and structure of urban areas.

343-4 Concepts in Urban Geography
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.

353-4 Location Theory
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.

354-4 Geography of Manufacturing
Factors of industrial location using empirical examples. Includes introduction to basic theories and techniques underlying the decision process in manufacturing locations.

361-4 Remote Sensing
Basic survey of imaging remote sensor types and their operational characteristics including sensors for the ultraviolet, visible, infrared, and microwave portions of the electromagnetic spectrum. Prerequisite: GEO 201 or permission of instructor.

362-4 Remote Sensing of the Environment
Application of remote sensing techniques to environmental and resource problems. Emphasis on optimizing sensor selection to enhance image information content.

365-5 Cartography
Principles of map projections, their construction, and their use in illustrating geographic relationships. Includes methods of design, compilation, and graphic representation of data.

370-4 Regional Geography
Physical and cultural analysis of major and minor world regions. Topics vary.

375-4 Environmental Conservation
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 203.
385-5 Geographic Methodology
Examination of the nature, tools, methods, and techniques of geographic analysis. Emphasis on design, compilation, interpretation, and presentation of research materials.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of geography. Topics vary.

413-4 Urban Planning III: The Land Use Plan
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 312.

414-4 Urban Planning Seminar
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.

432-4 Climatology II
Principles of physical and dynamical climatology. Evaluation of local and regional transports and conversions of energy in the earth-atmosphere system. Prerequisite: GEO 331.

441-4 Seminar in Urban Geography
Geographic perspective in the study of cities. Recent developments in theory, method, and techniques in urban geographic research with emphasis on the behavioral approach. Prerequisite: GEO 343 or permission of instructor.

445-4 Intermediate Cartography and Map Interpretation
Study and practice of compilation processes for the development of maps and models using primary data sources. Prerequisite: GEO 365 or permission of instructor.

446-4 Map and Photo Interpretation
Uses of map and photographic data in close and long range photogrammetry. Emphasis on the full spectrum of photo interpretation as applied to the controlled mapping of terrestrial and marine surfaces. Prerequisite: GEO 445 or permission of instructor.

447-5 Geographic Information Systems
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.

455-4 Geography of Transportation
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 353 or permission of instructor.

463-4 Geographic Applications for Remotely Sensed Data
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.

479-5 Landscape Analysis for Urban Planning
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 312 or permission of instructor.

481-1 to 4, 482-1 to 4 Special Problems in Geography
Research and problems designed for specific needs and talents of students. Topics vary.

484-3 to 4 Biogeography
(Also listed as BIO 484) Introduction to factors affecting the geographical distribution of plants and animals. Students registering for 3 credit hours attend lectures only; registration for 4 credit hours requires an additional laboratory section. Prerequisite: GEO 201, 330, or permission of instructor.

486-3 Foundations of Geography
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.

492-1 to 6 Geography Internship
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.

Geological Sciences/CL
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

105-3 The Planet Earth
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 mineral fuel deposits. Corequisite: GL 115.

106-3 The Evolving Earth
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. Corequisite: GL 116.

107-4 The Earth and Human Affairs
Examination of the interactions of humans with the earth in terms of geological hazards (floods, landslides, earthquakes, and volcanoes) and of natural resources (soil, water, ores, industrial minerals, and fossil fuels). Laboratory exercises on slope stability, earthquakes, soil conservation, ground water, toxic waste, and the economic aspects of mineral extraction and fossil fuels. 3 hours lecture, 2 hours lab.

115-1 The Planet Earth Laboratory
Study of rocks and minerals; field trips; map interpretation; and practical work on ground water, glaciation, and structural geology. Laboratory component for GL 105.
116-1 The Evolving Earth Laboratory
Exercises in time measurement, correlation of stratified rocks, evolution and biological diversity in the fossil record, and paleontology. Laboratory component for GL 106.


Departmental Courses

105-3 The Planet Earth
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 mineral fuel deposits. Corequisite: GL 115.

106-3 The Evolving Earth
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. Corequisite: GL 116.

107-4 The Earth and Human Affairs
Examination of the interactions of humans with the earth in terms of geological hazards (floods, landslides, earthquakes, and volcanoes) and natural resources (soil, water, ores, industrial minerals, and fossil fuels). Laboratory exercises on slope stability, earthquakes, soil conservation, ground water, toxic waste, and the economic aspects of mineral extraction and fossil fuels. 3 hours lecture, 2 hours lab.

111-4.5 Physical Geology Honors I
Comprehensive treatment of the dynamic systems and materials of the earth. External processes and resulting land forces are also studied. 3 hours lecture, 3 hours lab.

112-4.5 Physical Geology Honors II
Comprehensive treatment of external and internal processes of the earth and the resulting landforms. Introduction to earth resources and other earth-like planets. 3 hours lecture, 3 hours lab. Prerequisite: GL 111.

113-4.5 Historical Geology Honors
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. 3 hours lecture, 3 hours lab.

115-1 The Planet Earth Laboratory
Study of rocks and minerals; field trips; map interpretation; and practical work on ground water, glaciation, and structural geology. Laboratory component for GL 105.

116-1 The Evolving Earth Laboratory
Exercises in time measurement, correlation of stratified rocks, evolution and biological diversity in the fossil record, and paleontology. Laboratory component for GL 106.

120-12 Honors Geology—Physical, Historical Field
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.

199-1 to 4 Directed Studies
Research and problems related to specific needs and talents of students.

201-4 Water Resources
Hydrologic cycle; emphasizes past, present, and future problems in flood control, water pollution, and water resource development. 3 hours lecture, 2 hours lab or field trip.

234-4 Geology of the Smoky Mountains Area
Geological development of the Smoky Mountains area studied through lecture, examination of literature, and direct observation in the field. Emphasis on geologic processes that developed the present landscape and geologic history.

251-3 Physical Geology and Geomorphology I
Comprehensive treatment of the dynamic systems and materials of the earth. External processes and resulting land forces are also studied. Corequisite: GL 252.

252-1.5 Physical Geology and Geomorphology Laboratory I

253-3 Physical Geology and Geomorphology II
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.

254-1.5 Physical Geology and Geomorphology Laboratory II
Laboratory for topographic and geologic map and geologic cross sections interpretation to recognize geological structures and their relation to geomorphology and landforms. Prerequisite: GL 251, 252. Corequisite: GL 253.

255-3 Historical Geology
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.

256-1.5 Historical Geology Laboratory

Advanced Courses

304-3 Earth Resources
Nature and description of earth-derived resources. Political, financial, and environmental issues concerning their exploitation. 3 hours lecture. One-day field trip. Prerequisite: GL 105, 106, 107, 115, 116, or equivalent.

309-4 Environmental Geology
Impact and interrelationship of geological processes on the quality of human life and work. 3 hours lecture, 2 hours lab or field trip.

310-3 Issues in Science
(Also listed as BIO 310, CLIM 310, PHY 310, and MTII 310.) A writing-intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.

311-4.5 Introduction to Structural Geology
Concepts of stress, strain, and material behavior used to describe and explain how rocks deform. Depositional structures. 3 hours lecture, 3 hours lab.
### 312-4 Advanced Structural Geology
Development of theory of rock behavior. Finite strain and gravity tectonics. 3 hours lecture, 2 hours lab.

### 342-4.5 Fossil Vertebrates and Plants
Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.

### 345-4.5 Concepts in Geology
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.

### 365-3 Regional Geomorphology
Distribution, position, and surface form of geologic regions of the United States; study of the geologic structure that underlies them and the erosional processes that have modified their surface expressions.

### 380-4.5 Crystallography and Optics
Introduction to symmetry of crystals and crystal optics. Determination of optical constants of crystals by polarizing microscope. 3 hours lecture, 6 hours lab. (Previously listed as GL 301.)

### 381-4.5 Mineralogy
Lecture: chemistry and physics of minerals. Lab: Identification of minerals by microscopic, macroscopic, and X-ray techniques. 2 hours lecture, 5 hours lab. (Previously listed as GL 410.)

### 382-4.5 Igneous and Metamorphic Petrology
Origin of igneous and metamorphic rocks. Lab: Use of thin sections and hand specimens for mineral identification, rock structures, and classifications. 3 hours lecture, 3 hours lab. (Previously listed as GL 412.)

### 383-3.5 Sedimentary Petrology
A survey of sedimentary rocks in hand specimen, thin section, and field occurrences, with emphasis on their origin, tectonic significance, and economic potential. 2 hours lecture, 3 hours lab. Prerequisite: GL 380.

### 399-1 to 6 Special Problems
Research problems for specific needs and talents of students. Topics vary.

### 400-3 Introduction to Solid Earth Physics
(Also listed as PHY 400.) Basics of seismic, gravimetric, magnetic, and heat conduction principles as used to determine the geophysical properties of solid earth. Emphasis on the deeper parts of the crust, the mantle, and the core. Prerequisite: MTH 229.

### 413-5 Geochemistry
Principles governing distribution of elements within the earth. Introduction to geochemical research methods. 3 hours lecture, 4 hours lab.

### 416-4.5 X-Ray Techniques
Generation, spectrum, and absorption of X-rays. Diffraction of X-rays on crystals. Identification of crystals using powder cell dimensions of crystals. Solid solutions. 3 hours lecture, 3 hours lab.

### 420-3 Tectonics
Existence of large-scale tectonic features as demonstrated by current geophysical measurements; their geologic interpretation. Prerequisite: GL 311.

### 421-3 Ground Water Law and Regulatory Principles
Case study approach to understanding current federal, state, and local ground water law and regulations.

### 422-5 Introduction to Geophysical Prospecting
(Also listed as PHY 422.) Introduction to principles of gravity, magnetic, seismic, electrical, and radioactive prospecting. 3 hours lecture, 4 hours lab. Prerequisite: MTH 229 or permission of instructor.

### 423-4 Seismic Exploration
Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration. 3 hours lecture, 2 hours lab. Prerequisite: GL 422 or permission of instructor.

### 424-4 Gravity and Magnetic Exploration
(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. 3 hours lecture, 2 hours lab.

### 426-1 Geophysics Seminar
Literature survey and presentations by students on selected topics in geophysics. Prerequisite: GL 400 or 422.

### 427-4 Regional Structural Synthesis
Synthesis of diverse structural, geophysical, and remote sensing data and their application to regional tectonic interpretation and natural resource evaluation. Prerequisite: GL 311/511, 312/693.

### 428-0.5 to 2 Geology Colloquium
Selected geological topics discussed by students, guest speakers, and faculty. May be taken for letter grade or pass/unsatisfactory.

### 432-4.5 Carbonate Sedimentology and Petrology
Character, composition, origin, and diagenesis of carbonate rocks are examined using ancient and modern examples. 3 hours lecture, 3 hours lab.

### 434-9 Field Geology
Geologic phenomena illuminated in the field. Introduction of mapping techniques and application of many geological disciplines to geologic analysis.

### 437-4 Seismic Data Processing
Digital filtering, deconvolution, and migration of seismic data. Prerequisite: GL 423.

### 438-3 Seismic Interpretation
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.

### 439-1 to 6 Applied Geophysics for Hydrology and Engineering
Geophysical principles, field techniques, and interpretation methods are applied to geological problems in hydrology and engineering. Emphasizes electrical resistivity and seismic refraction methods.

### 440-3 Economic Geology
Genesis, classification, and description of economic metal-bearing mineral deposits.
444-4 Formation Analysis
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. 3 hours lecture, 2 hours lab.

445-4 Petroleum Geology
Hydrocarbon source rocks, maturation, and migration. Reservoir rocks and traps. Fluids in the reservoior, gas, oil, water, and relationships. Exploration for and production of hydrocarbons. Review of major petroleum basins and deposits.

450-4 Hydrogeology
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.

451-3 Regional Hydrogeology
Study of hydrogeology in the United States including water balance, budget, and yield.

452-3 Advanced Hydrogeology
Second-level course in hydrogeology that provides the theoretical background necessary to solve real-life problems involving ground water flow, well hydraulics, aquifer characterization, and contaminant transport. Completion of a calculus course required. Prerequisite: GL 450/450.

453-3 Hydrogeochemistry
Lectures focus on the types of chemical reactions that control the composition of ground water. Included are solubility, adsorption and ion exchange, and complexing. Computer programs for geochemical modeling are introduced. Prerequisite: GL 381, CHM 121, 122, 123.

458-3 Ground Water Management
Introduction to the basic principles of ground water management including case studies.

463-4 Geologic Applications of Remote Sensing
Introduction to and training in the applications of remote sensors to general field geology and more explicitly to exploration (mineral and petroleum) geology. Emphasis on the end product of the remote sensor.

474-3 X-Ray Spectral Analysis
(Also listed as ME 478.) Electron microprobe and X-ray fluorescence for analysis of rocks, minerals, and other substances explained and demonstrated on examples.

485-4 Stratigraphy
Principles, rules, and techniques of correlation. Relationships between surface and subsurface correlation. Geologic and geophysical correlation techniques. 3 hours lecture, 3 hours lab. (Previously listed as GL 333.)

486-4 Invertebrate Paleontology
Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab. Prerequisite: GL 106. (Previously listed as GL 341.)

487-4 Sedimentology
Clastic rocks, their mineralogy, texture, provenance, and classification. Nonclastic carbonates and other nonclastic rocks. Depositional environments; sedimentary structures. 3 hours lecture, 2 hours lab. Prerequisite: GL 485. (Previously listed as GL 429.)

491-4 Geology and Paleontology of the Northern Rockies
Three-week field trip to the northern Rocky Mountains to be held following Summer B term. Participants will travel in vans, sleep in tents, and cook their own meals while visiting selected geological and paleontological sites. Instructor permission required.

492-4 Geology of Southwestern United States
Two-and-a-half week field trip to the southwestern United States, possibly extending into Mexico, immediately following exam week of fall quarter. Participants will travel in vans, sleep in tents, and cook their own meals while visiting selected geological and paleontological sites. Instructor permission required.

495-4 Geochemical Prospecting
Theory, techniques, and application of geochemistry to the exploration for economic mineral deposits including hydrocarbons.

499-0.5 to 6 Special Problems
Research problems for specific needs and talents of students. May be taken for letter grade or pass/unsatisfactory at the department's option.

German/GER
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-4, 102-4, 103-4 First-Year German
Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing.

111-4 Essentials of German
Introduction to German with an emphasis on speaking the language.

115-4 German for Reading Knowledge
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.

150-4 German Grammar Review
A thorough review of German grammar with an emphasis on oral practice.

201-4 Second-Year German
Grammar review, reading, and discussion of selected texts with practice speaking and writing the language. Prerequisite: GER 103 or equivalent.

202-4 Second-Year German
Grammar review, reading, and discussion of selected texts with practice speaking and writing the language. Prerequisite: GER 201 or equivalent.
203-4 Second-Year German
Grammar review, reading, and discussion of selected texts with practice speaking and writing the language. Prerequisite: GER 202 or equivalent.

215-4 Scientific German
Intensive reading in all areas of expository and technical German. Prerequisite: GER 103 or equivalent.

Advanced Courses

311-4, 312-4 German Conversation
Emphasis on the culture of the German-speaking world. Prerequisite: GER 203 or equivalent.

321-4, 322-4 German Composition
Oral and written composition in German; translations from English into German. Further grammar study. Prerequisite: GER 203 or equivalent.

323-4 German Composition
Oral and written composition in German; translations from English into German. Further grammar study. Prerequisite: GER 203 or equivalent.

331-4, 332-4 Survey of German Literature
Historical survey of German literature from its beginning to the present. 331: literature of the Middle Ages, Renaissance, Reformation, Enlightenment, and Storm and Stress. 332: Classicism, Romanticism, Poetic Realism, and Modern Period. Prerequisite: GER 312 and 322 or permission of instructor.

GER 312, 322, and 332 or permission of instructor are prerequisites for the following advanced courses:

351-4 German Culture and Civilization
Survey of cultural influences and of political, social, economic, religious, educational, and cultural institutions.

361-4 Introduction to Germanic Folklore
Survey of Germanic folklore as it relates to literature.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of German. Topics vary.

403-4 Advanced Studies: Language/Civilization
Topics vary. Conducted in German.

405-4 Early German Literature
German literature from the earliest times to the Reformation.

406-4 Renaissance and Reformation
Representative German authors of the period.

410-4 Baroque
Representative German authors of the period.

415-4, 416-4 German Literature of the 18th Century
415: representative authors in Rococo, Enlightenment, and Storm and Stress. 416: representative works of Goethe and Schiller.

417-4 German Romanticism
Study of the romantic movement with representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others.

418-4 Goethe’s Faust
Intensive study of Faust I and Faust II.

425-4, 426-4, 427-4 German Literature of the 19th Century

431-4, 432-4, 433-4 German Literature of the 20th Century
Readings and reports in twentieth-century literature. 431: prose. Representative works of Hesse, Mann, Kafka, and others. 432: drama. Representative works of Schnitzler, Hofmannsthal, Kaiser, Toller, Brecht, and others. 433: poetry. Representative works of Rilke, George, Trakl, Benn, and others.

434-4 Thomas Mann
Studies of the writings of Thomas Mann.

442-4 History of the German Language

450-1 to 4 Undergraduate Research in German
Topics vary.

481-4, 482-4 Independent Reading for Advanced Students
Topics vary.

Greek/GR

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Students who have studied Greek elsewhere should consult the Department of Classics for appropriate course level. Placement and proficiency tests can be given.

101-4, 102-4, 103-4 Beginning Greek
Essentials of the Greek language.

201-4, 202-4 Intermediate Greek
Review of essentials and reading for comprehension in selected authors. Prerequisite: GR 103 or equivalent.

Reading Courses

The following courses offer a variety of authors and topics; they may be repeated for credit by number, although not by content. Students should consult the department for the scheduled subjects and authors. GR 202 or equivalent is prerequisite for all 300- and 400-level language courses.

351-4 Readings in Greek Drama
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.
353-4 Readings in Greek Poetry
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.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of Greek. Topics vary.

451-4 Readings in Greek Philosophy
Plato, Aristotle, Epicurus, Epicetetus, 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.

453-4 Readings in Greek History and Biography
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.

455-4 Readings in Greek Politics and Political Theory
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.

457-4 Reading in Greek Prose Narrative
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.

481-1 to 4 Independent Reading
Titles vary.

Health, Physical Education, and Recreation/HPR
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

100-1 to 2 Physical Education—Beginning
Fundamental skills and knowledge of one particular activity. Competency-based approach. Includes courses for disabled students. Students should check competency levels posted in Physical Education Building before enrolling.

101-2 Physical Education—Intermediate
Intermediate level of skills and knowledge in one particular activity. Competency-based approach. Students should check competency levels posted in Physical Education Building before enrolling.

102-3 Physical Education—Advanced
Advanced level of skills and knowledge in one particular activity. Competency-based approach. Includes courses in life saving and water safety instruction. Students should check competency levels posted in Physical Education Building before enrolling.

151-4 Total Fitness Lifestyle (TFL)
Assessment, prescription, participation, and reassessment of fitness variables including cardiovascular fitness, strength, blood lipids, and body composition.

170-3 Principles of Physical Fitness
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.

211-3 Motor Skills of Young Children
Examination of motor skills used by young children to develop a foundation of fundamental movement patterns and skills. Several basic skills are defined and illustrated.

212-3 Adapted Physical Education and Recreation
Physical and psychological considerations and problems in adapting physical activities to individual needs of people with disabilities; standard classifications; exercises and adaptations appropriate for each classification.

213-3 Teaching Adapted Aquatics
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.

214-3 Physical Education for the Orthopedically and Sensory Impaired
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.

220-3 Fundamental Movement
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.

221-3 Motor Development
Influence of growth and development on movement acquisition. Performance implications for the teaching of physical education is stressed.

230-4 Personal Health
Discussions of personal health problems including basis for mental health, maintenance of health and selection of health services, physical fitness, nutrition, quackery, industrial and home safety, and health of the preschool child.

240-2 Problems in Health Education
Discussion of problems related to health education. Much of the course content is determined by students enrolled through individualized assignments.

241-3 Introduction to Health, Physical Education, and Recreation
Nature and scope of health, physical education, and recreation from past to present, with emphasis on the present and future.
242-2 Problems in Health, Physical Education, and Recreation
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.

250-4 Basics of Anatomy and Physiology I
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. 3 hours lecture, 2 hours lab.

251-4 Basics of Anatomy and Physiology II
A continuation of HPR 250. Topics include respiration, exercise, digestion, metabolism, urinary system, acid base balance, reproduction, and immune system. Prerequisite: HPR 250.

260-3 First Aid

261-4 Athletic Training I
Introductory course to the field of athletic training. 3 hours lecture, 2 hours lab. Prerequisite: HPR 260.

281-3 Physical Education for the Elementary School
Curriculum and materials for elementary school physical education; emphasis on objectives, evaluation, planning, resources, facilities, and curricular trends. Students must demonstrate cognitive and psychomotor abilities. For nonmajors only.

284-1 to 15 Practicum in Health, Physical Education, and Recreation
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. Practicum must be in area of physical education concentration.

303-3 Therapeutic Exercise
Methods of evaluating students and design of individual exercise programs for students with temporary or permanent physical limitations. Prerequisite: HPR 212.

310-4 Developmental Activities for Children
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.

312-3 Movement and Motor Skills for Multiply Disabled Students
Sensory-motor skill development of individuals as it relates to perceptual enhancement, IEP and IHP development, mobility skills, and vocational fitness. Course is intended for students in early childhood education, special education, and related disciplines.

330-4 Community Health
In-depth treatment of public health problems including study of agencies, diseases, food inspection, safety, and ecology.

331-4 Health and First Aid for the Classroom Teacher
Discussions of health-related issues for elementary school-age children, and a comprehensive study of first aid techniques and procedures in emergency treatment for the elementary classroom teacher.

340-3 Organization and Administration of Health, Physical Education, Recreation, and Athletic Programs
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.

350-4 Biomechanics
An analysis of principles of mechanics as they relate to human movement. Prerequisite: HPR 250, 251 or equivalent.

351-4 Exercise Physiology
Physiological adjustments and changes occurring in the human organism as a result of physical activity. Physiology of muscular contraction and role of circulatory and respiratory systems in exercise. Prerequisite: BIO 278, 279 or P&B 301, 302 or equivalent.

354-3 Psychology of Coaching
Study of the role of psychology in the total athletic spectrum.

355-4 Applied Exercise Physiology
Practical applications in exercise physiology for the physical educator, coach, and athletic trainer. Methods of conditioning, training, implementation, and other special considerations included.

360-3 Therapeutic Modalities in Athletic Training
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: HPR 261.

362-3 Nutrition for Fitness and Sport
Nutrient and food energy needs of the individual who is physically active and for the individual who works with the physically active, such as athletes.

380-2 Health Instruction
Theory and application of health instruction including materials, curriculum development, and discussions of a variety of teaching methods. Prerequisite: HPR 230, 330; ED 214, 216, 218, 220, 221, 223, 327 (ED 327 may be taken concurrently).

381-3 Methods of Teaching Individual Sports
Variety of teaching techniques to be used when teaching individual sports. Prerequisite: ED 214, 216, 218, 220, 221, 223, 327 (ED 327 may be taken concurrently).
382-3 Methods of Teaching Health and Physical Education
Theory and application of health and physical education instruction including materials, curriculum development, and discussion of a variety of teaching methods. Prerequisite: ED 214, 216, 218, 220, 221, 223, 327 (ED 327 may be taken concurrently). Corequisite: ED 323.

383-3 Methods of Teaching Outdoor Activities
Designed to provide knowledge and practical application of teaching and leading outdoor activities relating to the field of physical education and recreation. Prerequisite: ED 214, 216, 218, 220, 221, 223, 327 (ED 327 may be taken concurrently).

384-1 to 15 Practicum in Health, Physical Education, and Recreation
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. Practicum must be in area of physical education concentration.

410-4 Psychomotor Assessment of Exceptional Children
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.

419-5 to 15 School Nursing Practicum
Supervised experiences in the public school. Prerequisite: HPR 440.

430-1 to 3 Coaching Theory
Theory, skills, strategies, and organization principles of coaching a particular sport. Typical sports covered include baseball, basketball, football, soccer, swimming, track and field, tennis, and volleyball. Prerequisite: HPR 101 in same sport.

440-3 School Health Services
Study of health services provided by our public schools; techniques for increasing students' knowledge of healthful practices.

450-4 Motor Learning
Relationship of psychology to motor skill learning; application to teaching is stressed. Prerequisite: ED 214, 216, 218, 220.

455-4 Measurement and Evaluation in Physical Education
Nature and purpose of measurement in physical education. Evaluation of available tests and practice in administration of pertinent tests.

460-3 Athletic Training II
Advanced problems found in the identification of injuries related to athletic participation. Prerequisite: HPR 261, 350.

481-3 Research Methods in Physical Education
Introduction to basic research procedures in health, physical education, and recreation including a review of the statistical procedures pertinent to physical education. The format for thesis writing is also discussed. Prerequisite: HPR 455.

484-1 to 15 Practicum in Health, Physical Education, and Recreation
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. Practicum must be in area of physical education concentration.

488-1 to 6 Independent Study
Independent reading, writing, and/or reporting in areas related to health, physical education, or recreation. Topics vary.

489-1 to 6 Workshop in Health, Physical Education, and Recreation
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. Topics vary.

History/HST
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

101-3 The Western World: The Ancient and Medieval Eras
Examination of the character of the premodern world from prehistory through the fourteenth 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.

102-3 The Western World in Transition: The 14th to 18th Centuries
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. Prerequisite: HST 101.

103-3 The Modern Western World: The 19th to 20th Centuries
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. Prerequisite: HST 102.

Departmental Courses

Lower Division Courses

101-3 The Western World: The Ancient and Medieval Eras
Examination of the character of the premodern world from prehistory through the fourteenth 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.
COURSES

History

102-3 The Western World in Transition: The Fourteenth to Eighteenth Centuries
Examination of the roots of the modern Western world emphasizing the revolution in economic, political, religious, and demographic realities that occurred between the fourteenth and eighteenth centuries. Prerequisite: HST 101.

103-3 The Modern Western World: The Nineteenth to Twentieth Centuries
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 nineteenth and twentieth centuries. Prerequisite: HST 102.

199-1 to 4 Studies in Selected Topics
Problems, approaches, and topics in the field of history. Topics vary.

211-3, 212-3 American Civilization
Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. 211: colonial foundations to 1877. 212: 1877 to the present.

214-3, 215-3 African-American History
Survey of black people in American society from colonial slave trade to the present. 214: African roots to 1877. 215: Reconstruction to the present.

218-3, 219-3 History of Ohio: Frontier to Factory
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. 218: prehistory to 1871. 219: since 1871.

Upper Division Courses

300-4 What Historians Do
Introduction to methods historians use to understand and interpret the past.

316-4 Introduction to Urban History: Sumeria to Suburbia
(Also listed as URS 316.) 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.

318-4 Modern Japan
Focuses on the phenomenal success of Japan's modernization since the imperial restoration in 1868; Japanese expansionism and imperialism, and Japan's power as an example for non-Western areas embarking on modernization.

321-4, 322-4 History of England
321: Romans through the Stuarts; from the beginning to 1714. 322: from Hanoverians to the present.

325-3 The Holocaust
An examination of the Holocaust in its cultural, social, and political context and an analysis of its consequences.

332-4 History of Canada
Challenges and survival. Problems of Canadian nationalism, 1867 to present.

361-4 War in the Western World
Evolution of warfare from 1789 to the present emphasizing the influence of war and the military on the development of Western history.

390-4, 391-4, 392-4 Medieval Western Europe
From the decline of the Western Roman Empire to ca. 1300. Primary emphasis on Italy, Germany, and France. 390: 285 to 814. 391: to 1100. 392: to 1300.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of history. Topics vary.

400-4 to 12 History Honors Project
May range from library research to field training. Prerequisite: HST 300.

405-4 Ancient History
Courses offered under this number examine selected problems in Roman history to the death of Constantine in A.D. 337. Topics vary.

415-4 Early Modern European History
Courses offered under this number examine selected problems in European history from the decline of the Roman Empire through the Renaissance and Reformation. Topics vary.

425-4 Modern European History
Courses offered under this number examine modern European history from the Enlightenment to the present through a national (e.g., Germany), chronological (e.g., nineteenth century), or topical (e.g., Socialism) approach. Topics vary.

435-4 British History
Courses offered under this number examine particular periods of British history (e.g., modern Britain) or topics (e.g., British constitutional history). Topics vary.

445-4 Middle Eastern History
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.

455-4 Latin American History
Courses offered under this number examine selected Latin American nations (e.g., Mexico), particular topics (e.g., the Age of Dictators), and regions of current historical interest (e.g., Central America). Topics vary.

465-4 Far Eastern History
Courses offered under this number examine various periods of Chinese history and the modern histories of other Asian nations (e.g., India) or regions (e.g., Southeast Asia). Topics vary.

470-4 Colonial American History
Courses offered under this number examine the colonial, revolutionary, and early national periods of American history, and topics such as Puritanism or the origins of early American political thought. Topics vary.

475-4 Nineteenth-Century United States History
Courses offered under this number examine distinct periods in the nineteenth century (e.g., Civil War and Reconstruction) and major topics such as slavery. Topics vary.
Human Factors Engineering/HFE

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

306-4 Human Factors in Engineering and Design
Introduction to the study of human factors in the design and operation of machine systems.
Prerequisite: MTH 230.

307-4 Industrial Ergonomics
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. Prerequisite: HFE 306, ME 212.

431-3 Human Factors Engineering of Visual Displays
Introduction to the design of visual display systems. Topics include display technologies, human visual capacities, design of display parameters, and image quality metrics. Prerequisite: HFE 306, EE 321.

450-3 Human Factors Engineering Analysis Methods
Provides human factors engineering students access to a variety of engineering and behavioral analytic techniques critical to the study of work performance. Prerequisite: PSY 111, 112, STT 360.

451-4 Human Factors Engineering in Computer Systems Design
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: CEG 220, STT 361, HFE 450.

456-2 Human Factors Engineering Laboratory
A stand alone laboratory course structured to expose students to equipment and procedures used in human factors engineering research and design. Prerequisite: HFE 307.

471-4 Systems Performance Modeling
Study of quantitative techniques to analyze and predict systems performance. Topics include queueing models, system simulation, model validation, data collection, quantitative analysis of system performance, and system design evaluation. Prerequisite: HFE 450, STT 361.

472-3 Human Factors Engineering Design I
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.

473-3 Human Factors Engineering Design II
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.

474-3 Human Factors Engineering Design III
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.

476-4 Human Factors Engineering in Aerospace System Design
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.

490-1 to 5 Special Problems in Human Factors Engineering
Special topics in human factors engineering. Topics vary.

Italian/ITA

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-4 First-Year Italian
Study of the vocabulary and structure of the Italian language; practice in conversation, reading, and writing. ITA 101, 102, 103 must be taken in sequence.

102-4 First-Year Italian
Study of the vocabulary and structure of the Italian language; practice in conversation, reading, and writing. ITA 101, 102, 103 must be taken in sequence.
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COURSES

Italian

Japanese

Law

Japanese/JPN

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-4, 102-4, 103-4 First-Year Japanese
Study of the vocabulary and structure of the Japanese language; practice in conversation, reading, and writing. ITA 101, 102, 103 must be taken in sequence.

111-4 Essentials of Japanese
Introduction to Japanese with emphasis on speaking the language.

201-4, 202-4 Second-Year Japanese
Continued study of the Japanese language with practice in speaking, reading, and writing. Must be taken in sequence.

Latin/LAT

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Students who have studied Latin elsewhere should consult the Department of Classics for the appropriate course level. Placement and proficiency tests can be given.

101-4, 102-4, 103-4 Beginning Latin
Essentials of the Latin language.

201-4, 202-4 Intermediate Latin
Review of essentials and reading for comprehension in selected authors. Prerequisite: LAT 103 or equivalent.

Reading Courses

The following courses offer a wide variety of authors and topics; they may be repeated for credit by number, although not by content. Students should consult the department for the scheduled subjects and authors. LAT 202 or equivalent is prerequisite for all 300- and 400-level language courses.

351-4 Readings in Roman Drama
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.

353-4 Readings in Roman Epic
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.

355-4 Readings in Roman Poetry
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.

357-4 Readings in Roman Satire
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.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of Latin. Topics vary.

451-4 Readings in Roman Didactic Literature
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.

453-4 Readings in Roman History and Biography
Sallust, Livy, Tacitus, and Suetonius. Topics include Roman historiographical tradition, family and political influences, evidence from nonliterary sources, and influence from Greek historiography.

455-4 Readings in Roman Politics and Government
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.

481-1 to 4 Independent Reading

Law/LAW

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

350-3 The Legal Environment of Business
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.

360-3 Legal Aspects of Business Organizations

370-3 Legal Aspects of Commercial Transactions
Legal environment in which commercial transactions are conducted. Sale of goods, commercial paper, and financing the sale in secured transactions. Personal property and consumer protection. International sales transactions. Prerequisite: LAW 350.
420-3 Legal Aspects of Managing a Diverse Workforce

Employment discrimination as prohibited by major federal laws (such as Title VII, Americans with Disabilities Act, Age Discrimination in Employment Act, and others) and as interpreted by court cases. Prerequisite: LAW 350.

477-1 to 4 Special Studies in Business Law

Reading or research in selected areas of business law.

480-1 to 4 Special Topics in Law

Topics vary.

Liberal Arts/LA

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

199-1 to 2 Great Decisions

Faculty-led reading and discussion group centering on major foreign policy issues facing the United States. Topics vary.

201-2 Effective Career Planning

Assists students in developing academic major and career goals through identifying skills and interests and then researching appropriate options. (Previously listed as COM 104.)

203-2, 205-4 Sophomore Cooperative Education

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. 203 may be repeated three times; 205 may be repeated twice. Prerequisite: for 203, part-time work experience; for 205, full-time work experience.

303-2, 305-4 Junior Cooperative Education

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. 303 may be repeated three times; 305 may be repeated twice. Prerequisite: for 303, part-time work experience; for 305, full-time work experience.

314-4 Research Methods in the Social Sciences

Develops skills in creating, manipulating, documenting, and analyzing data bases using SAS. Includes planning for and acquiring computer-compatible data and practical applications in social science disciplines. Prerequisite: CS 141 or MIS 100 or equivalent.

401-2 Implementing Career Decisions

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. (Previously listed as COM 304.)

403-2, 405-4 Senior Cooperative Education

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. 403 may be repeated three times; 405 may be repeated twice. Prerequisite: for 403, part-time work experience; for 405, full-time work experience.

490-1 to 6 Senior Project in Selected Studies

Intensive studies or work in a selected topic.

Linguistics/L1

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

371-4 Introduction to Historical and Comparative Linguistics

Principles of historical and comparative study of languages; introduction to Indo-European, Germanic, Romance, and Slavic philology.

399-1 to 4 Studies in Selected Subjects

Deals with problems, approaches, and topics in the field of linguistics. Topics vary.

Management/MGT

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

100-3 The World of Business and Administration

An introduction to the elements of the business environment and the major functions of business: management, marketing, manufacturing, human resources, finance, and accounting.

200-3 Elements of Management and Supervision

For undergraduate, nonbusiness students to acquire a basic understanding of the history, practices, and roles of managers in work organizations.

280-3 Special Topics in Management

Provides students in disciplines outside the College of Business with an understanding of selected topics in management. Topics and prerequisites vary.

Advanced Courses

All of the following courses require junior standing in addition to the listed prerequisites.

301-3 Functions of Management

Essential functions and practices of management in organizations. Topics discussed include planning, organizing, leading, and controlling. Prerequisite: junior status.

302-3 Introduction to Organizational Behavior

Develops an understanding of behavior within a modern organization. Includes motivation, leadership, perception, groups, and conflict management.

321-3 Human Resource Management

Analysis of the human resources system; interrelationship of policy areas such as staffing, development, and utilization. Prerequisite: MGT 302.
Human Resources Development
Topic presented as an ongoing process designed to improve organizational effectiveness. Typical interventions are analyzed for appropriateness in a variety of situations. Prerequisite: MGT 321.

Leadership Studies
Focuses on advanced theoretical models and effective skills in developing managerial leadership in organizations; and leadership style assessments and structured programs for ongoing professional leadership development. Prerequisite: MGT 302.

Labor Relations
A comprehensive course that includes the following topics: the historical foundations of the American labor movement and contemporary industrial relations; the legal framework for industrial relations; and collective bargaining relationships—the players, structure, negotiations contract administration, and conflict management. Prerequisite: MGT 321.

Compensation Administration
A comprehensive analysis of the purpose, structure, and effectiveness of organizational compensation systems. Topics include: legal issues, job design, job analysis, job evaluation, direct pay systems, indirect pay systems, incentive pay systems, and compensation plan administration. Students develop a compensation plan for a simulated organization. Prerequisite: MGT 412.

Staffing the Organization
Introduction to the scientific, legal, and administrative issues associated with the selection, placement, and promotion of individuals by organizations. Topics include criterion development, test validation, job analysis, and recruitment. Prerequisite: MGT 321 and LAW 420.

Small Business Management
Students will work in teams with small businesses to develop a business plan. They will look at marketing, finances, staffing, etc. needed to start a business or grow an existing business. This class provides excellent hands-on application of previous course work. Prerequisite: MGT 301, 302, MKT 301, 302, ACC 300, FIN 301.

Special Studies in Management
Reading or research in a selected field of management. Topics vary.

Honors: Independent Study in Management
Research in management for fulfillment of the Honors Program project requirement.

Special Topics in Management
Topics as listed: 480-A Small Business Consulting; 480-B Topics in International Management; 480-C Topics in Personnel Administration; 480-D Topics in Industrial Relations; 480-E Topics in Systems Management; 480-F Topics in Organizational Development.

Human Resource Management Internship
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: Permission of instructor.

International Management
Studies fundamental concepts of international management and examines cultural, institutional, behavioral, and management systems and their operation in the international sphere. Prerequisite: MGT 301 and 302.

Public Policy in the Business Environment
Relationship between business and government; the business environment and public policy, the corporate role in American society, and business social responsibility. Prerequisite: LAW 350.

Strategic Management and Organizational Policy
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 inside and outside the classroom. Prerequisite: MGT 491.

Strategies for Human Resource Management
Integrated human resource management strategies. Students will work in groups to analyze human resource structures, policies, and programs in field situations. Prerequisite: LAW 420, MGT 422, 424. Open only to Human Resource Management seniors who have completed a majority of their major course work.

Management Information Systems/ MIS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Introduction to Data Processing
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. 3 hour lecture, 1 hour lab.

Business Data Structures
Introduces data structures for MIS majors. Covers structures such as linked lists and binary trees needed to support business file and database processing. Continues skill development of program design and testing. Prerequisite: CS 142 or 209; MTH 228.

Special Topics in Management Information Systems
Provides students in disciplines outside the College of Business with an understanding of selected topics in management information systems. Topics and prerequisites vary.

Advanced Courses
All of the following courses require junior standing in addition to the listed prerequisites.
300-4 Introduction to Management Information Systems
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. 3 hours lecture, 2 hours lab. Prerequisite: CS 205.

321-3 System Analysis Methodologies
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: CS 142 or 209, 205.

322-3 Systems Design and Implementation
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.

323-3 Management of Information Systems
Study of the principles and concepts in the management of information technology and information systems resources. Includes information staff functions; information systems planning; legal, ethical, and professional issues; and strategic impact of information systems. Prerequisite: MIS 322.

400-3 Business Operating Systems
A functional, systems-level review of computing equipment; the organization of components and devices into architectural configurations is discussed. Topics include the principles of system software and hardware, and software configurations and data routing within architectural designs. Prerequisite: MIS 210, CS 142 or 209 or equivalent.

410-3 Business Database Processing
Provides a broad introduction to database technology. Topics include object orientation, normalization, DBMS components/functions, and distributed processing and data models. Exposure to both micro- and mainframe computer database management systems. Prerequisite: MIS 210.

420-3 Data Communications, Networks, and Distributed Processing
Familiarizes students with the background, concepts, proper application, and components of data communications, network design, and distributed information systems. Emphasis on the impact of communications technology on information systems. Prerequisite: CS 205.

430-3 Decision Support Systems
Concentrates on the adaptive design process of building decision support systems (DDS) through integration of data and model bases for individual and organizational decision making. Emphasis is on requirements determination and evaluation phases. Prerequisite: MIS 321, MS 203.

477-1 to 4 Special Studies in Management Information Systems
Research in selected fields of management information systems. Topics vary.

478-3 to 6 Honors: Independent Study in Management Information Systems
Research in management information systems for fulfillment of the honors project requirement. Senior MIS majors only.

480-3 Special Topics in Management Information Systems
480-A AI/Expert Systems; 480-B Data Communications; 480-C Office Automation; 480-D Graphics; 480-E Distributed Processing; 480-F Management of IS; 480-G Database.

481-1 to 6 Internship in Management Information Systems
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.

490-3 Information Systems Development Project
Provides students with experience in analyzing, designing, implementing, and evaluating information systems. Students work in teams to acquire practical experience with information systems development projects. Prerequisite: MIS 322, 410.

Management Science/MS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

201-3 Introduction to Data Analysis
Statistical methods used in analysis of business problems. Theory and application of frequency distributions; measures of location; and variation and further descriptions. Introduction to probability, expectations; theoretical probability distributions; sampling and sampling distributions. Prerequisite: MTH 127.

202-3 Introduction to Statistical Inference
Topics covered include statistical estimation, hypothesis testing, ANOVA, and regression as applied to areas including quality control, work standards, and forecasting. Prerequisite: MS 201.

203-3 Applied Statistical Methods for Business
Use of statistical and analytical techniques to aid in problem solving. Techniques may include: probability theory, queuing theory, simulation, decision theory, linear programming, and forecasting. Prerequisite: MS 202, MTH 228.

280-3 Special Topics in Management Science
Provides students in disciplines outside the College of Business with an understanding of selected topics in management science. Topics and prerequisites vary.

Advanced Courses
All of the following courses require junior standing in addition to the listed prerequisites.

306-3 Introduction to Operations Management
Survey of functions making up the production system. Includes product design, process design, production standards, work measurement, design of jobs and work methods, forecasting, scheduling, quality control, and inventory control. Prerequisite: CS 205, MGT 301, MS 203, MTH 228.
Management Science

331-3 Quantitative Methods for Business Decisions I
Study of several statistical methodologies that transform past business experience variables into forecasts of future events. A practical research project that uses these methodologies is required. Prerequisite: MS 203.

332-3 Quantitative Methods for Business Decisions II
Topics include multiple regression and discriminant analysis (MDA) with associated theory, analytical procedures, computer programs, and business applications. Prerequisite: MS 331 or permission of instructor.

341-3 Probabilistic Models
Use of probability in modeling basic decision-making situations. Applications in the areas of queuing, simulation decision analysis, and Markov chains. Basic probability is reviewed. Prerequisite: MS 202, MTH 228.

430-3 Advanced Quantitative Methods
Examines stratified and cluster sampling procedures as used in marketing, economics, and management; single and multifactored ANOVA as applied in business, government, and industry. Factor analysis is explored, time permitting. Prerequisite: MS 203 or permission of instructor.

435-3 Quality Management
Concepts, objectives, and application of management of quality in production systems. Emphasis on techniques and methods used to control operating processes. Prerequisite: MS 306.

437-3 Production and Inventory Control
Advanced course in techniques for production and inventory management. Major topics include production planning, material requirements planning, capacity planning, and just-in-time production systems. Prerequisite: MS 306.

439-3 Purchasing Management
Emphasis is on the techniques used in the management of the purchasing process for evaluating and selecting suppliers, determining the quantities to order, and selecting the type of contract. Prerequisite: MS 306.

450-3 Systems Simulation in Business and Economics
Introduction to simulation techniques as applied to business and economic systems. Topics include basic concepts, applications, and technical problems associated with use of systems simulation. Design and operation of computer models emphasized. Prerequisite: CS 142 or 209 or permission of college advisor.

477-1 to 4 Special Studies in Management Science
Topics vary.

478-3 Honors: Independent Study in Management Science
Research in management science for fulfillment of the Honors Program project requirement.

480-3 Special Topics in Management Science

481-1 to 6 Internship in Management Science
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.

490-3 Senior Seminar in Management Science
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.

Marketing/MKT

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

All of the following courses require junior standing in addition to the listed prerequisites.

280-1 to 3 Special Topics in Marketing
Provides students in various disciplines with an understanding of selected topics in marketing. For nonbusiness students interested in the selected topic: Topics and prerequisites vary.

301-3 Principles of Marketing
Explores the structure and functioning of the American marketing system; emphasis on its economic and social determinants, cost, productivity, and efficiency. Prerequisite: EC 201, 202, 203; or permission of department chair.

302-3 Marketing Management
Factors involved in the management of the marketing function relative to product development, promotion, pricing, physical distribution, and determination of marketing objectives within the framework of the environment. Prerequisite: MKT 301.

303-3 Consumer Behavior
Behavior content of marketing in consumer, industrial, and international fields. Examination of applicable theory, research findings, and concepts that are provided by psychology, sociology, anthropology, and marketing. Stresses conceptual models of buyer behavior based on sources of influence: individual, group, culture, and environment. Prerequisite: MKT 302.

336-3 Fundamentals of Personal Selling
Nature of personal selling in the marketing environment; emphasis on personal selling-marketing relationships, buyer motivation and behavior, selling strategy, and techniques of selling. Prerequisite: MKT 302.

356-3 Services Marketing
Explores the fundamental product, price, promotion and distribution issues that require special attention in the marketing of services and their related developed and emerging theories for effective implementation. Prerequisite: MKT 302.

401-3 Sales Management
Objectives, policies, and techniques of sales force management. Special role of the sales manager in marketing, selling, personnel, and financial responsibilities and opportunities. Prerequisite: MKT 302, 336.
411-3 Credit Management
Use of credit as a tool of marketing management. Includes the basic concept of credit, social influences of credit, production of the credit service, agencies and institutions involved in the performance of credit functions, and technology of credit management. Prerequisite: MKT 302, FIN 302.

416-3 Product Management
Intensive study of the product development and management process with emphasis on technique, procedure, concept, and theory applications. Prerequisite: MKT 301, 302.

418-3 Price Management
Evaluation and application of existing and developing pricing techniques, procedures, concepts, and theories to simulated and real price management problems. Prerequisite: MKT 302, FIN 302.

421-3 International Marketing
Analysis of managerial and operational problems of the multinational business organization. Emphasis on the role of environmental differences in influencing marketing strategy. Prerequisite: MKT 302.

423-3 Physical Distribution
Overview of logistics as a part of the firm's marketing program. Analysis of physical facilities, transportation, and alternative channels of distribution. Qualifies as distribution option for marketing majors. Prerequisite: MKT 302.

435-3 Starting New Ventures

441-3 Advertising
Advertising as a communication tool in marketing management. Emphasis on decision making relative to message strategy, media selection, creativity, budgets, and appraisal of advertising effectiveness. Prerequisite: MKT 302.

442-3 Direct Marketing
Introduction to the theories, concepts, and techniques of modern direct marketing. Covers direct response methods in consumer and industrial marketing and in nonprofit organization marketing. Prerequisite: MKT 302.

444-3 Telemarketing
Strategic applications of the telephone in all facets of marketing with specific reference to its role in industrial and consumer direct response marketing. Legal environment and ethics of marketing by phone explored in depth. Prerequisite: MKT 302.

445-3 Marketing Research
Examination of the marketing research process in both a basic and an applied sense; focus on concepts and techniques currently employed in behavioral research. Prerequisite: MKT 301, 302, MS 201, 202.

461-3 Principles of Retailing
Analysis of the performance of marketing functions at the retail level. Emphasis on institutional compositions, competitive factors, and management of the marketing mix as it relates to retail market segments. Prerequisite: MKT 302.

477-1 to 6 Independent Studies in Marketing
Readings or research in a selected field of marketing.

478-3 Honors: Independent Study in Marketing
Research in marketing for fulfillment of the Honors Program project requirement.

480-1 to 3 Special Topics in Marketing
Seminar in special topics such as consumerism and social issues, nonprofit organization marketing, advanced retailing management, channels of distribution, and forecasting. Topics vary.

481-1 to 6 Internship in Marketing
Faculty-supervised internship in retailing, marketing research, advertising, industrial selling, nonprofit sector marketing, or other areas of marketing. Requires monthly seminars and reports.

492-3 Marketing Policy
Final course to integrate the students' work in marketing and to promote marketing problem-solving capabilities. Involves group preparation of a marketing plan.

Mathematics/MTH
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course
105-3 Mathematics and the Modern World
An application of mathematics to modeling real world problems from the behavioral, computational, managerial, and social sciences. Includes such topics as graph theory, linear programming, probability, descriptive and inferential statistics, voting systems, game theory, population growth, computer algorithms, and codes and data storage. Prerequisite: Three years of college preparatory mathematics including Algebra II and at least level 4 on the math placement test; or equivalent. Substitutions: MTH 228 or 229, 230 or STT 264, 265 or STT 160.
Departmental Courses

102-3 Elementary Algebra
Programmed beginning algebra. Sets, counting numbers, integers, rational numbers, equations in two variables, polynomials, factoring, fractions, and fractional and quadratic equations. At least Level 2 on math placement test and departmental approval required.

105-3 Mathematics and the Modern World
An application of mathematics to modeling real world problems from the behavioral, computational, managerial, and social sciences. Includes such topics as graph theory, linear programming, probability, descriptive and inferential statistics, voting systems, game theory, population growth, computer algorithms, and codes and data storage. Prerequisite: Three years of college preparatory mathematics including Algebra II and at least level 4 on the math placement test; or equivalent.

126-5 Intermediate Algebra
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 math placement test.

127-3 Accelerated Intermediate Algebra
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: Two units of high school algebra and at least level 3 on math placement test.

128-5 College Algebra I
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 127 or equivalent or at least level 4 on math placement test.

129-3 Accelerated College Algebra I
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 127 or equivalent or at least level 4 on math placement test.

130-3 College Algebra II
Complex numbers, synthetic division, remainder and factor theorem, fundamental theorem of algebra, depressed equations, sequences and series, matrices, Gauss-Jordan, determinants, and Cramer's Rule. Not for credit to students with credit for MTH 134. Prerequisite: MTH 128 or 129 or equivalent or at least level 5 on math placement test.

131-3 Trigonometry
Trigonometric and inverse trigonometric functions. Not for credit to students with credit for MTH 134. Prerequisite: MTH 128 or 129 or equivalent or at least level 5 on math placement test.

134-5 College Algebra II and Trigonometry
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, 129, or at least level 5 on math placement test.

200-3 Accelerated Calculus I
This course and MTH 300 cover the material of MTH 229, 230, and 231 at an accelerated pace. Graded pass/unsatisfactory.

228-5 Calculus for the Management, Life, and Social Sciences
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.

229-5 Calculus I
Conic sections, functions, limits, continuity, the derivative, derivatives of algebraic and trigonometric functions, and applications of the derivative. Prerequisite: MTH 130 and 131; or MTH 134; or level 7 on math placement test.

230-5 Calculus II

231-5 Calculus III
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.

232-5 Calculus IV
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.

233-5 Differential Equations
Elementary first order equations, linear equations, linear systems, series solutions, Laplace transform, and applications. Uniqueness and existence theorems for solutions. Prerequisite: MTH 231.
243-4 Fundamental Mathematical Concepts I
Overview of mathematical topics covered in grades K-8 from a perspective appropriate to a prospective teacher. Covers sets, functions, prenumeration and numeration concepts, properties of whole numbers, integers, and rational numbers. For elementary education majors only. 3 hours lecture, 1 hour lab. Prerequisite: MTH 105.

244-4 Fundamental Mathematical Concepts II
Overview of mathematical topics covered in grades K-8 from a perspective appropriate to a prospective teacher. Covers irrational numbers, proportions, introductory geometry, constructions, congruence and similarity, and concepts of measurement. For elementary education majors only. 3 hours lecture, 1 hour lab. Prerequisite: MTH 243.

253-3 Elementary Matrix Algebra
Elementary course in matrix theory covering matrices, linear equations, determinants, linear transformations, eigenvalues, and eigenvectors. Prerequisite: MTH 230 or equivalent.

255-3 Linear Algebra
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.

257-3 Discrete Mathematics for Computing
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.

280-3 Introduction to Mathematical Proof
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.

290-3 Writing in Mathematics
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 255 and 280.

300-3 Accelerated Calculus II
Continuation of MTH 200. Graded pass/unsatisfactory. Prerequisite: MTH 200.

303-3 Differential Equations II
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, 253.

306-3 Mathematical Modeling
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, 253 or 355, or permission of instructor.

310-3 Issues in Science
(Also listed as BIO 310, CHM 310, GL 310, and PHY 310.) A writing-intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.

316-4, 317-4 Numerical Methods for Digital Computers
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. 3 hours lecture, 2 hours lab. Prerequisite: For 316: MTH 231, MTH 253 or 255, and one of the following: CS 142, 241, CEG 220, EGR 153. For 317: MTH 233, 316, and MTH 253 or 355.

332-3 Complex Variables
Topics discussed include power series expansion, the formula of Cauchy, residues, conformal mappings, and elementary functions in the complex domain. Prerequisite: MTH 232.

333-3 Partial Differential Equations and Boundary Value Problems

345-4 Geometry for Elementary School Teachers
Axioms, finite geometries, nonmetric and metric lengths, angles, area, volume, polygonal figures, and elementary curves. Prerequisite: MTH 244.

355-3 Advanced Linear Algebra
Covers vector spaces and subspaces, basis and dimension, linear transformations and matrices, eigenvalues and eigenvectors, and inner product spaces. Prerequisite: MTH 255.

399-1 to 5 Selected Topics
Selected topics in mathematics. May be taken for letter grade or pass/unsatisfactory.

407-3 Optimization Techniques
(Also listed as CS 407.) Concepts of minimization and maximization. Linear programming, simplex method, sensitivity, and quality. Transportation and assignment problems. Dynamic programming. Prerequisite: MTH 233, 253 or 255.

410-4 Theoretical Foundations of Computing
(Also listed as CS 410.) Turing machines; µ-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. Prerequisite: CS 466.

416-4 Matrix Computations
(Also listed as CEG 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.
### Mathematics

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#### Descriptions:

**419-3 Cryptography and Data Security**
(Also listed as CS 419.) 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.

**431-3 Real Variables I**
Functions, sequences, limits, continuity, differentiability, integration, and mean-value theorems. Prerequisite: MTH 280.

**432-3 Real Variables II**
Infinite series, uniform convergence, Taylor series, improper integrals, special functions, and Fourier series. Prerequisite: MTH 431.

**433-3 Real Variables III**
Theory of functions of several variables, vector-valued functions. Prerequisite: MTH 432.

**434-5 Introduction to Complex Analysis I**
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.

**440-3 History of Mathematics**
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, 471.

**450-3 Discrete Algebraic Structures**
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.

**451-3, 452-3 Introduction to Modern Algebra I, II**
Introduction to abstract algebraic structures including groups, rings, integral domains, and fields. Prerequisite: for 451, MTH 280 or 450; for 452, MTH 451.

**457-3 Combinatorics**
Topics are permutations, combinatorics, generating functions, recurrence relations, and Polya's theory of counting. Prerequisite: MTH 231.

**458-3 Applied Graph Theory**
(Also listed as CS 458.) 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 CS 142 or 241.

**459-3 Combinatorial Tools for Computer Science**
(Also listed as CS 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. Credit for MTH 457 recommended. Prerequisite: MTH 280.

**471-3 Geometry**
Topics in foundations of Euclidean geometry, introduction to non-Euclidean and other geometries. Prerequisite: MTH 280.

**472-3 Projective Geometry**
Projective and affine planes and spaces; change of coordinates, projective transformations; and conics. Prerequisite: MTH 231.

**475-4 Differential Geometry**
Calculus on Euclidean space frame fields, calculus on a surface, shape operators, and geometry of surfaces in Euclidean 3 space. Prerequisite: MTH 232.

**476-4 Computer Graphics I**
(Also listed as CEG 476.) The principles of the design, use, and understanding of computer graphics systems. Covers basic drawing techniques, line and polygon clipping, two- and three-dimensional transformations, segmentation, projections, and three-dimensional viewing. Graphics standards (GKS and PHIGS) and hardware are discussed. Each student will create a menu-driven, interactive graphics package capable of generalized three-dimensional viewing. Prerequisite: MTH 253 or 255, CS 400.

**477-4 Computer Graphics II**
(Also listed as CEG 477.) Continuation of MTH 476. Covers selected topics in detail including hidden line and surface removal, shading models, curved surface generation, and color models. Students are expected to understand and implement sophisticated algorithms in these areas. Projects are individualized and creative. Selected papers are used for in-depth material. 3 hours lecture, 2 hours lab. Prerequisite: MTH 476.

**480-3 Methods of Applied Mathematics: Geometric Methods**
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.

**481-3 Methods of Applied Mathematics: Differential Equations**
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.

**482-3 Methods of Applied Mathematics: Integral Methods**
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.

**488-1 to 5 Independent Reading**
Topics vary.
492-3 Undergraduate Mathematics Seminar
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 permission of instructor. Limited to mathematics majors except those in the statistics option. May be taken for a letter grade or pass/unsatisfactory.

499-1 to 5 Selected Topics
Selected topics in mathematics.

Mechanical and Materials Engineering/ME

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

201-2 Computer-Aided Drafting
Basic techniques of computer-aided engineering drawing. Graphic primitives, drawing, editing, dimensioning, multiple views, hatching, drawing intelligence, and three-dimensional modeling. 1 hour lecture, 2 hours lab. Prerequisite: Completion of fundamental course in engineering drawing.

202-4 Engineering Graphics
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.

212-4 Statics
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.

213-4 Dynamics
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.

220-4 Introduction to Manufacturing Process
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.

313-4 Strength of Materials
Axial and shear stresses and strains, biaxial loading; torsion of circular shafts; shear and bending moment diagrams; deflection of beams; and column theory. 3 hours lecture, 2 hours lab. Prerequisite: ME 212, PHY 240, EGR 153.

315-4 Thermodynamics 1
Classical thermodynamics with applications of the first and second laws to engineering systems. Prerequisite: PHY 244, MTH 232.

316-4 Thermodynamics II
Concepts of availability and irreversibility; power and refrigeration cycles; thermodynamic relations; compressible flow, and mixtures and combustion. 3 hours lecture, 2 hours lab. Prerequisite: ME 315.

317-4 Fluid Dynamics
Study of fluid properties; fluid statics, one-dimensional compressible and incompressible flows; and flow of real fluids, flow measurement. 3 hours lecture, 2 hours lab. Prerequisite: ME 213, 315.

318-4 Heat Transfer
Principles that govern heat transfer in solids, fluids, vacuum, and at interfaces of solids and fluids. Laboratory experiments to illustrate these phenomena. 3 hours lecture, 2 hours lab. Prerequisite: ME 317.

370-4 Materials Engineering Science
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 244.

371-3 Structure and Properties of Engineering Materials
Effect of microstructure, phase equilibrium, and processing on properties of structural materials including metallic alloys, polymers, and composites. Prerequisite: ME 313, 370.

375-4 Thermodynamics of Materials
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.

376-3 Physical Metallurgy
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.

385-2 Metallography Laboratory
Preparation of metallographic specimens; use of the metallurgical microscope including the preparation of photomicrographs. Corequisite: ME 370.

386-2 Materials Testing Laboratory
Fundamentals of mechanical testing instrumentation and techniques including the tensile test, hardness tests, effect of heat-treatment on strength, and correlation of microstructure, composition, and properties. Prerequisite: ME 385. Corequisite: ME 371.

405-4 Kinematics and Design of Mechanisms
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.

408-3 Design Optimization
Concepts of minima and maxima; linear, dynamic, integer, and nonlinear programming; variational methods. Engineering applications are emphasized. Prerequisite: ME 213, MTH 253.
409-4 Aerospace Structures
Stress, deformation, and stability analysis of aerospace structures. Thin-walled members bending, torsion, and shear stresses calculation in multilayered structures. Buckling of thin plates. Prerequisite: ME 313.

412-4 Finite Element Analysis
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: ME 313, MTH 233.

414-4 Mechanical Design I
Fundamental concepts in design for static strength, fatigue, and impact loading; application to selected mechanical components and systems. Prerequisite: ME 313.

415-4 Mechanical Design II
Design of mechanical elements such as springs, bearings, shafts, gears, clutches, brakes, and flywheels. Students conduct an individual design project. Prerequisite: ME 414.

417-3 Mechanics of Viscous Fluids
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.

418-3 Heat Conduction in Solids
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.

423-4 Energy Conversion
Important new developments in energy conversion. Thermoelectric, photoelectric, thermionic, and electromechanical systems are studied. Prerequisite: ME 315.

430-4 Aeronautics
Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control, and astronautics and propulsion concepts. Prerequisite: ME 213, 315.

431-4 Aerospace Propulsion
Engine cycle analysis; combustion fundamentals; reciprocating engines, propellers; applications to turbojet, turbofan, turbos其中, ramjet, SCRAM jet, and rocket engines. Prerequisite: ME 317.

432-4 Flight Control Systems

456-4 Introduction to Robotics
(Also listed as CEG 456, EE 456.) 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 and MTH 253; proficiency in Pascal, C, or FORTRAN programming.

460-4 Mechanical Vibrations
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: ME 213, EE 321.

470-3 Failure Analysis
Engineering aspects of failure analysis, failure mechanisms and related environmental factors, and analysis of actual service failure. Prerequisite: ME 313, 371.

475-3 High Temperature Materials
The design and use of high temperature superalloys, strengthening mechanisms, creep and fatigue, corrosion and oxidation, protective coatings, and alternative materials. Prerequisite: ME 376. Corequisite: ME 477.

477-4 Mechanical Behavior of Materials
Crystal plasticity and single crystal behavior. Introduction to dislocation theory. Strengthening mechanisms and polycrystalline behavior. Introduction to viscoelasticity. Fatigue, fatigue, and creep of materials. Prerequisite: ME 313, 371.

478-3 X-Ray Spectral Analysis
(Also listed as GL 478.) Electron microprobe and X-ray fluorescence for analysis of alloys and other materials explained and demonstrated on examples. 2 hours lecture, 1 hour lab. Prerequisite: ME 482.

479-4 Materials Corrosion
(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, 371. Corequisite: CHM 453.

482-4 X-Ray Methods in Materials Science
Introduction to the theory and practice of diffraction methods in the study of alloys, refractory materials, and polymers. 2 hours lecture, 4 hours lab. Prerequisite: ME 376.

483-3 Introduction to Ceramics
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.

484-4 Physical Ceramics
Processing, microstructure, and properties of ceramics; defect equilibria in oxides; thermal, optical, electrical, and mechanical properties of ceramic materials; ceramics for special applications. 3 hours lecture, 2 hours lab. Prerequisite: ME 483.

485-4 Solidification Processing
Fundamentals of melt solidification, application to metals casting technology, and an introduction to powder metallurgy. 3 hours lecture, 2 hours lab. Prerequisite: ME 375.

486-4 Deformation Processing
Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability; and mechanics and analysis of selected processes. 3 hours lecture, 2 hours lab. Prerequisite: ME 313, 371.
487-4 Machining
Fundamentals of machining with an emphasis on engineering models of machinability, chip formation, cutting forces and power, and lubrication. Introduction to numerical control machining. 3 hours lecture, 2 hours lab. Prerequisite: ME 371.

488-4 Powder Processing

489-4 Engineering Plastics: Materials, Processes, and Design
(Also listed as CHM 469.) Properties and manufacturing processes of engineering plastics and effect of these factors on plastics design. Illustrative laboratory projects included. 2 hours lecture, 4 hours lab. Prerequisite: CHM 465.

490-0, 491-0 Engineering Design I, II
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. 2 hours lecture, 2 hours lab, 1 hour recitation.

492-4 Materials Engineering Design
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.

499-1 to 5 Special Problems in Mechanical and Materials Engineering
Special problems in advanced engineering topics. Topics vary.

Medical Technology/MT

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Enrollment in the following courses is limited to medical technology interns.

434-3 Introduction to Clinical Laboratory Science
Introduction to procedures and techniques related to clinical laboratory function.

435-2 Advanced Clinical Laboratory Science
Study of advanced methodology and instrumentation that may include computer applications, data management, research data collection, and statistical analysis.

436-5 Diagnostic Microbiology
Application of microbiological principles to diagnosis, infection, and resistance.

437-5 Methods of Diagnostic Microbiology
Laboratory experiments in diagnostic microbiology. Corequisite: MT 436.

438-5 Clinical Chemistry
Application of principles of biochemistry to the human in health and disease.

439-5 Clinical Laboratory: Biochemistry
Laboratory course using current clinical chemistry techniques for the analysis of human tissues and fluids.

440-4 Body Fluid Analysis
Study of body fluids covering the pathophysiology of their formation and nature, as well as the techniques of examination for diagnostic information.

442-4 Hematology
Study of hematopoiesis, blood cell cytology, and clotting mechanisms of human blood.

443-4 Hematology Laboratory
Laboratory study of cellular elements of blood and hemostasis. Corequisite: MT 442.

444-3 Immunohematology
Immunology and genetics of human blood groups and types.

445-3 Immunohematology Laboratory
Study of immunology as applied to human blood isoantigens and isoantibodies. Corequisite: MT 444.

446-2 Immunology
Study of antigens and antibodies with emphasis on in vivo and in vitro reactions.

447-3 Laboratory Immunology: Serology
Study of detection and measurement of antigens or antibodies using in vitro systems.

448-2 Clinical Pathology Correlation
Correlation of clinical laboratory findings with different human physiological states.

449-2 Clinical Pathology Seminar
Presentation and discussion of topics in clinical laboratory medicine.

450-1.5 Pediatric Clinical Laboratory
Study of basic analytical techniques applicable to the examination of pediatric body fluids and tissues.

Microbiology and Immunology/ M&I

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

220-5 Microbiology of the Human Environment
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. 4 hours lecture, 2 hours lab. Prerequisite: BIO 105 or equivalent, CHM 101 or 102.

245 COURSES

Mechanical and Materials Engineering

Medical Technology

Microbiology and Immunology
212-3 Map Reading
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.

213-2 First Aid
Instruction and practical experience in the
treatment of casualties including CPR. Analysis of
the leader's role in establishing preventive
medicine and physical readiness programs. 2
hours lecture and physical education, 1 hour lab.

311-2 Advanced Tactics I
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. 2 hours conference, 1 hour lab.
Prerequisite: MIL 111, 112, 113, 211, 212, 213 or
equivalent.

312-2 Advanced Tactics II
Study of military weapons and equipment and
analysis of geography as it pertains to military
operations. Requires participation in weekend
exercises and physical training program. 2 hours
conference, 1 hour lab. Prerequisite: MIL 311.

313-2 Military Instruction
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 program. 2 hours
conference, 1 hour lab. Prerequisite: MIL 312 or
departmental approval.

411-2 Staff Functions
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. 2 hours conference, 1 hour lab.
Prerequisite: MIL 311, 312, 313; or permission of
instructor.

412-2 Administration and Ethics
Study of military correspondence and briefing
techniques/formats. Introduction to
professionalism and military professional ethics.
Requires participation in weekend training
exercises and a physical fitness program. 2 hours
conference, 1 hour lab. Prerequisite: MIL 411 or
permission of instructor.

413-2 Military Justice and Counseling
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. 2 hours conference, 1
hour lab. Prerequisite: MIL 411, 412, or
permission of instructor.

450-1 Current Military Events
Independent study project on selected recent or
current events that impact on US Army
operations, doctrine, structure, planning, or
organization. A detailed presentation, causes,
actions, and results of a selected topic.
Prerequisite: MIL 411, 412, and 413.
Modern Language Humanities/ML

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

301-4 French Culture
Study of French culture according to language distinctions with emphasis on the uniqueness within the family of nations. (Previously listed as ML 211.)

302-4 Germanic Culture
Study of German culture according to language distinctions with emphasis on the uniqueness within the family of nations. (Previously listed as ML 212.)

303-4 Spanish Culture
Study of Spanish cultures according to language distinctions with emphasis on the uniqueness within the family of nations. (Previously listed as ML 213.)

304-4 Spanish-American Culture
Study of Spanish-American culture according to language distinctions with emphasis on the uniqueness within the family of nations. (Previously listed as ML 214.)

305-4 Russian Culture
Study of Russian culture according to language distinctions with emphasis on the uniqueness within the family of nations. (Previously listed as ML 215.)

306-4 Brazilian Culture
Brazilian film, music, and literature are studied in their historical context, reflecting Brazilian society and politics. (Previously listed as ML 216.)

311-4, 312-4, 313-4, 314-4, 315-4, 316-4 Literature in Translation

369-3 Children's Literature for Teachers of Foreign Languages
(Also listed as ED 369.) Reading and discussion of children's books in modern languages (French, Spanish, German, and Russian) and reading informational books about the countries where the languages are spoken. Prerequisite: SPN 202 or FR 202 or RUS 202 or GER 202.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of modern languages. Topics vary.

Motion Pictures/TH

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

131-4 Film Appreciation
Introduction to film appreciation and analysis; examines critical approaches to film and film style including authorship and genre.

180-3 Film Production I
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.

231-3 History of the Motion Picture I
Historical development of the art of the film from nineteenth-century scientific experiments through the end of silent era. Examination of technical, social, economic, and cultural factors that have shaped film art.

232-3 History of the Motion Picture II
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.

233-3 History of the Motion Picture III
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.

253-3 Basic Video Production
(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.

281-3, 282-3, 283-3 Intermediate Film Production
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: for 281, TH 180; for 282, TH 281; for 283, TH 282.

331-3 Studies in Film History
Provides intensive study of selected areas of film history. Titles vary.

332-3 Studies in Film Authorship
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: TH 131 or permission of instructor.

333-3 Studies in Film Genre
Provides an intensive study of a film genre (e.g., the western, the musical, and the gangster film). Titles vary.

334-3 History and Theory of the Documentary Film
Comprehensive survey of the history of documentary film and an introduction to the theories and approaches used by documentary filmmakers throughout this century. Prerequisite: TH 131.

381-5, 382-5, 383-5 16mm Film Production
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: for 381, TH 283; for 382, TH 381; for 383, TH 382.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of motion pictures. Topics vary.

435-3 Studies in Film Criticism
Intensive examination of a selected area of film criticism. Titles vary.

436-3 Studies in Film Production
Provides an intensive study of a selected area of film production. Titles vary. Prerequisite: TH 180.
481-3 Senior Practicum in Filmmaking
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: TH 381.

490-3 Independent Screening
Independent screenings of twenty-five 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: TH 231, 232, 233, two 300-level film theory courses.

499-1 to 4 Independent Study in Film History, Theory, Criticism, and Practice
Independent work to culminate in thesis and/or film. Prerequisite: TH 332, 333.

Applied Music/MUA
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.
Private instruction is offered in the following fields of concentration. Subject to the regulations of the college in which the student is registered, each half-hour lesson per week may carry 1 or 2 credit hours per quarter at the undergraduate level, depending on the level of proficiency demonstrated by the student. All students must receive departmental approval before registering in applied music.

110-1 Applied Music
Applied music instruction is available to the general student, regardless of major. Section number designates applied area. Prerequisite: for 111, MUA 111; for 112, MUA 112.

111-1, 112-1, 113-1 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 111, MUA 111; for 112, MUA 112.

121-2, 122-2, 123-2 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 122, MUA 121; for 123, MUA 122.

141-4, 142-4, 143-4 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 142, MUA 141; for 143, MUA 142.

211-1, 212-1, 213-1 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 211, MUA 113; for 212, MUA 211; for 213, MUA 212.

221-2, 222-2, 223-2 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 221, MUA 123; for 222, MUA 221; for 223, MUA 222.

241-4, 242-4, 243-4 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 241, MUA 143; for 242, MUA 241; for 243, MUA 242.

311-1, 312-1, 313-1 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 311, MUA 213; for 312, MUA 311; for 313, MUA 312.

321-2, 322-2, 323-2 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 321, MUA 223; for 322, MUA 321; for 323, MUA 322.

341-4, 342-4, 343-4 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 341, MUA 243; for 342, MUA 341; for 343, MUA 342.

411-1, 412-1, 413-1 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 411, MUA 313; for 412, MUA 411; for 413, MUA 412.

421-2, 422-2, 423-2 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 421, MUA 323; for 422, MUA 421; for 423, MUA 422.

441-4, 442-4, 443-4 Applied Music
Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music. Prerequisite: for 441, MUA 343; for 442, MUA 441; for 443, MUA 442.

Music/MUS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course

214-3 Music in Western Culture
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. Substitutions: MUS 121 and 122.
Departmental Courses

111-1, 112-1, 113-1 Vocal Technique and Diction
Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy. Prerequisite: for 112, MUS 121; for 113, MUS 112.

125-1 Beginning Piano I
For non-music majors, class instruction in basic keyboard skills, rudiments of music theory, and beginning sight reading.

126-1 Beginning Piano II
Continuation of MUS 125. Development of additional keyboard skills. Study of melody, harmony, and rhythm. Prerequisite: MUS 125.

127-1 Beginning Piano III
Continuation of MUS 126. Performance of simple music and application of knowledge of musical elements through performance. Prerequisite: MUS 126.

131-1 Beginning Guitar Class I
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.

132-1 Beginning Guitar Class II
Based on technique covered in MUS 131, this class concentrates on note-reading, more chords, and accompaniment styles. Prerequisite: MUS 131 or permission of instructor.

133-1 Beginning Guitar Class III
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.

155-1, 156-1, 157-1 Keyboard Musicianship
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: for 156, MUS 101, 155; for 157, MUS 102, 156. Corequisite: for 155, MUS 101; for 156, MUS 102; for 157, MUS 103.

255-1, 256-1, 257-1 Keyboard Musicianship

261-2, 262-2 Pronunciation of Foreign Languages
For students of singing. Application of the International Phonetic Alphabet to Italian, French, and German. Includes intensive readings of song lyrics.

281-1 Jazz Improvisation I
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.

282-1 Jazz Improvisation II
Study and performance of the cycle of fifths through technical jazz exercises designed to complement the highly syncopated rhythms and non-diatomic melodies found in the music of the Bebop era. Prerequisite: MUS 281.

283-1 Jazz Improvisation III
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. Prerequisite: MUS 282.

284-1 Advanced Jazz Improvisation
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. Prerequisite: MUS 283.

291-3 Computer Applications in Music
Study of computer technology and music software applications. Emphasis is placed upon using MIDI for electronic score notation, sequencing, and basic coursework design. 2 hours lecture, 2 hours lab. Prerequisite: MUS 203, 253.

316-3 Piano Pedagogy I
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 103, 122, and 153 or permission of instructor.

317-3 Piano Pedagogy II
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.

416-3 Practicum in Piano Pedagogy I
Supervised teaching of elementary, intermediate, and early advanced students, as well as peer teaching. Accompanied by problem-solving seminars and discussion of business aspects of piano teaching. Prerequisite: MUS 317 or permission of instructor.

420-3 Opera Production and Coaching
For advanced singers in the production of opera; culminates in public performance. Individual coaching for major role assignment. Course requirements may include participation in Dayton Opera productions.

441-1, 442-1 Pedagogy

Ensembles
Wright State staff and students not majoring in music may enroll with or without credit. Enrollment open to all students in the university.

105-1 University Chorus
Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.
106-1 WSU Gospel Choir
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.

135-1 University Orchestra
165-1 Symphony Band
Performs original compositions and transcriptions for band and wind ensembles. Audition required.

166-1 Concert Band
Performs band music of all styles. Open to all students without audition.

167-1 Varsity Band
Performs at all home basketball games and for other campus activities. Open to all students without audition.

168-1 Jazz Band
A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.

195-1 University Madrigal Singers
Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.

196-1 University Chorale
Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

205-1 Chamber Music
Audition required.

235-1 University Brass Choir
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.

265-1 Vocal Jazz Ensemble
Development of performance skills in vocal jazz; emphasis on jazz style and technique, improvisation, and jazz theory. Previous enrollment in university chorus or permission of instructor required.

275-1 Chamber Orchestra
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.

Theory of Music
101-3, 102-3, 103-3 Theory of Music
Theoretical study of music including written exercises, form and analysis, and harmony. Corequisite: MUS 151, 152, 153.

151-1, 152-1, 153-1 Sight Singing and Dictation
Corequisite: MUS 101, 102, 103.

201-3, 202-3, 203-3 Music Theory
Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level. Prerequisite: MUS 103, 153. Corequisite: MUS 251, 252, 253.

251-1, 252-1, 253-1 Sight Singing and Dictation
Continuation of MUS 151, 152, 153. Prerequisite: MUS 103, 153. Corequisite: MUS 201, 202, 203.

301-3 Baroque Counterpoint
Prerequisite: MUS 203, 253.

302-3 Renaissance Counterpoint
Prerequisite: MUS 203, 253.

371-3, 372-3, 373-3 Composition
Creative writing in smaller forms for a variety of media. Includes the exploration of various composition styles. Prerequisite: for 371, MUS 203.

381-3, 382-3, 383-3 Electronic Music Composition
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of tape and synthesizer techniques. Prerequisite: for 381, MUS 373.

401-3 Form and Analysis
Harmonic and formal analysis: motive, phrase, periods, and binary and ternary forms. Prerequisite: MUS 203, 253, 313.

402-3 Form and Analysis
Contrapuntal techniques, rondo, sonata-allegro forms. Prerequisite: MUS 401.

403-3 Form and Analysis
Contrapuntal techniques and analysis of 20th-century music. Prerequisite: MUS 203, 253, 313.

421-2, 422-2 Orchestration
Tone quality and ranges of orchestral instruments; voice qualities and ranges of choral ensembles; and written assignments in each area. Prerequisite: MUS 203, 253.

424-3 History of Music Theory
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.

471-3, 473-3 Advanced Composition
Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style. Prerequisite: for 471, MUS 373.

Music History and Literature
121-3 Foundations of Analytical Listening
Aural analysis taught via musical examples from various periods and cultures including non-Western and popular music.

122-3 Survey of Musical Styles
Principle types of Western music from ca. A.D. 500 to the present. Aural analysis; forms and styles. Prerequisite: MUS 121.

311-3, 312-3, 313-3 History of Music
From ancient and medieval periods through the 20th century. Prerequisite: MUS 103, 122, 153.

314-3 Introduction to Research in Music
Methods of scholarly investigation in music history, theory, and education; music bibliography: emphasis on individual projects and reports. Prerequisite: MUS 122.
331-3 Music Literature: Medieval
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.

332-3 Music Literature: Renaissance
Historical study of music from ca. 1450 to 1600. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

333-3 Music Literature: Baroque
Historical study of music from 1600 to 1750. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

391-3 Music of African Americans 1619 to Present
Survey of African American music from the 17th century to the present, including its creators, styles, and influences.

411-3 Music Literature: Classical
Historical study of music from 1730 to 1830. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

412-3 Music Literature: 19th Century
Historical study of music from 1820 to 1900. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

413-3 Music Literature: 20th Century
Historical study of music from 1900 to the present. Emphasis on analysis, theoretical and stylistic concepts, and performance practice. Prerequisite: MUS 203, 313.

451-3, 452-3, 453-3 Piano Literature
Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century.

455-3, 456-3, 457-3 Vocal Literature
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. (Previously listed as MUS 491.)

Music Education
145-1, 146-1 Voice Class
Class instruction. Materials and pedagogy.

215-1, 216-1, 217-1 String Instruments
Class instruction. Materials and pedagogy.

223-3 Methods in Music: Marching Bands
Materials, techniques, and administration of marching bands in the public school.

224-1, 225-1, 226-1 Brass Instruments
Class instruction. Materials and pedagogy.

227-1, 228-1, 229-1 Woodwind Instruments
Class instruction. Materials and pedagogy.

231-1 Percussion Instruments
Class instruction. Materials and pedagogy.

322-3 Methods in Music: Choral Ensembles
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. Corequisite: MUS 337.

323-3 Methods in Music: School Bands and Ensembles
Administration, techniques, materials, and problems; class instruction in the public school. Prerequisite: MUS 203, 253.

324-1 Methods in Music: String Instrument Techniques in the Public School Orchestra
Classroom instructional techniques, materials, and problems in the public school orchestra program. Prerequisite: MUS 203.

328-3 Music in the Elementary School
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.

329-3 Music in the Junior High School
Materials, techniques, general music program, curriculum, and changing voice. Reading components and teaching strategies included. Prerequisite: MUS 203, 253.

335-1 Basic Conducting
Basic baton technique and score reading for choral and instrumental conducting. Includes a laboratory ensemble. Prerequisite: MUS 122, 202, and 252.

336-2 Intermediate Conducting
Intermediate baton technique and score reading for choral and instrumental conducting. Prerequisite: MUS 122, 203, 253, and 335.

337-3 Advanced Choral Conducting
Continuation of MUS 336. Emphasis on rehearsal techniques, comprehensive musicianship, and performance practices. For music majors only. Completion of choral laboratory ensemble required. Prerequisite: MUS 336.

338-3 Advanced Instrumental Conducting
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.

Music for Nonmajors
114-3 Fundamentals of Music Theory
Study of basic materials, notation, and reading of music for students with little or no previous music training.

117-3 Music Listening IV: Jazz
Historical survey of jazz and related styles from the late 19th century to the present.

118-3 Popular Musical Theatre
Survey of popular musical theatre from its origin in classic comic opera to the present. Emphasis on the Broadway musical since the 1940s.

141-2, 142-2, 143-2 Singing in Musical Theatre
Basic music and interpretation of notation. Vocal training with emphasis on musical theatre. For theatre majors only.

214-3 Music in Western Culture
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.
Nursing/NUR

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

All of the following courses require admission to the College of Nursing and Health. Course levels must be taken in sequence.

114-2 Nursing Elective
Special topics.

209-4 Introduction to Professional Nursing
Explores 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. Prerequisite: PSY 110, SOC 200. Corequisite: PSY 341 or equivalent.

210-1 Introduction to Nursing Informatics
Introduction to trends and issues of informatics in nursing and health care with an emphasis on effective use of hardware and software in information technology. Laboratory experience included.

212-3 Nursing for Health and Wellness Lifestyle
Emphasizes concepts, models, theories, and methodologies consistent with a philosophy of health and wellness. Incorporates self-directed activities to promote maximum health in self and others. Pre- or corequisite: NUR 209.

213-3 Field Experience in Health and Wellness
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. Pre- or corequisite: NUR 212.

214-2 Human Diversity in Health Care
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. Pre- or corequisite: NUR 209.

217-5 Health Assessment Across the Lifespan
Includes development of a systematic approach to obtaining a health history and appraisal, performing physical assessments on individuals throughout the lifespan. Focuses on the well individual in a variety of life settings Prerequisite: NUR 209, 212, 214, P&B 301, PSY 341. Pre- or corequisite: NUR 210.

218-5 Introduction to Clinical Nursing
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 210 and 217, P&B 301 and 302.

304-3 Foundations of Nursing Research
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.

305-3 Legal and Ethical Foundations for Nursing Practice
Examines the theoretical basis of ethical decision making and legal elements of professional nursing practice. Preparations the student for the clinical application experience in succeeding courses. Prerequisite: NUR 218.

306-2 Concepts of Altered Health States
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, CHM 102, or equivalent courses.

307-3 Foundations of Family and Group Nursing
Foundational course in family development from the perspective of family nursing science. Explores impact of environmental influences on family health. Theoretical frameworks guiding the study and practice of group work will be examined. Prerequisite: NUR 218, PSY 341.

308-5 Introduction to Professional Nursing
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.

312-10, 313-10 Nursing Process: Human Existence and Health II, III
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: for 312, NUR 312.

317-2 to 4 Selected Topics
Topics vary.

318-2 Transition: Nursing Process
Examines the nurse's roles and functions essential for the practice of professional nursing within an interdisciplinary health care system. Uses critical thinking and decision-making strategies in affecting change individually and within groups. Explores relevant research in practice. Prerequisite: NUR 212, 308.

321-6 Adult Health and Illness
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, 306. Pre- or corequisite: NUR 307.

322-6 Nursing Care of Childbearing Families
A clinical course focusing on the understanding and application of selected concepts related to the childbearing family in the maternity cycle. Prerequisite: NUR 321, PHR 340.

323-6 Nursing Care of Childbearing Families
A clinical course focusing on children and adolescents in families with a variety of health states in various health care settings. Prerequisite: NUR 321, PHR 340.
324-6 Nursing Care of Aging/Aged Families
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. Pre- or corequisite: 321.

405-2 Theory of Aging/Aged Families
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 210, 214, 304, 307, 308, 318. For RN’s only.

406-2 Contemporary Nursing Issues and Health Policy
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 304, 305, 322, 323, 324.

407-2 Nursing Leadership and Management in Health Care
Examination of theories and strategies of leadership and management in the realm of health care. Prerequisite: NUR 304, 305, 322, 323, 324.

408-1 Professional Nursing Seminar
Theories of role transition will be analyzed from the student’s perspective. A personal philosophy of nursing will be developed. Leadership behaviors will be fostered within a small group experience. Prerequisite: Completion of all nursing courses prior to the final nursing quarter. Scheduled concurrently with senior nursing practicum.

411-10 Nursing Process: Human Existence and Health IV
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 304 and 313.

412-10 Nursing Process: Human Existence and Health V
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 or 318.

413-10 Nursing Process: Human Existence and Health VI
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.

414-1 to 4 Nursing Elective
Topics vary. Prerequisite: NUR 212, 218.

415-1 to 4 Independent Study
Faculty-directed, individualized study on student-selected topics. Permission of faculty required. Prerequisite: NUR 212, 218.

421-6 Nursing in Mental Health Systems
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 307, PSY 311 or equivalent, and junior level nursing courses.

422-6 Nursing in Community Health Systems
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: Completion of junior level courses.

423-6 High Acuity Nursing in Complex Health Systems
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 304, 322, 323, 324.

424-7 Synthesis Practicum in Professional Nursing
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. Prerequisite: NUR 406, 407, 421, 422, 423.

425-3 Synthesis Practicum in Professional Nursing
Integration of theories and concepts for transition into professional practice with the evolution of a personal philosophy of nursing. Prerequisite: NUR 406, 407, 422. For RN’s only.

462-2 Advanced Health Assessment
Expands RN’s knowledge of history taking and physical assessment as it relates to clients across the lifespan and in a variety of settings. RN’s admitted to completion program only.

498-3 Nursing Honors Seminar
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.

499-1 to 3 Nursing Honors Independent Study
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

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

201-3 Beginning Shorthand
Development of a vocabulary/writing skill in Gregg shorthand. Permission of instructor required for students with shorthand skills.

202-3 Intermediate Shorthand
Continued vocabulary and writing skill development in Gregg shorthand. Emphasis on dictation and ability to transcribe accurately. Prerequisite: OA 201 or equivalent proficiency; OA 211 or equivalent.

203-3 Advanced Shorthand
Emphasis on dictation, transcription skills and speed building in Gregg shorthand. Prerequisite: OA 202 or equivalent proficiency and permission of advisor.

210-3 Keyboarding
Basic instruction in keyboarding and document formatting with word processing software.

211-3 Beginning Typewriting
A mastery of the basic skills in touch typewriting. The typing of letters, reports, short tabulations, themes, manuscripts, and office memoranda.

212-3 Intermediate Typewriting
Mastery of the basic skills in keyboarding using word processing software. Typing of letters, reports, short tabulations, themes, manuscripts, and memoranda. 2 lab hours per week required. Prerequisite: OA 211 or permission of instructor.

213-3 Advanced Typewriting
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. 2 lab hours per week required. Prerequisite: OA 212.

220-3 Introduction to Word/Information Processing
Introduction to word/information processing through the study and application of word processing software. Prerequisite: OA 212.

221-3 Intermediate Word/Information Processing
An introduction to the Windows environment with advanced word and information processing applications, including tables, columns, merging, sorting, macros, styles, graphics, and basic desktop publishing. 2 lab hours per week required. Prerequisite: OA 220.

222-3 Advanced Word/Information Processing with Desktop Applications
Basic typography and design principles supplement advanced WordPerfect techniques in desktop applications. 2 lab hours per week required. Prerequisite: OA 221.

301-3 Beginning Transcription
Advanced dictation, speed building, and introduction to machine dictation in the transcription of mailable documents using word processing software. Prerequisite: OA 203, 212.

305-3 Office Information Systems I
Course designed to acquaint students with the use of computers, telecommunications, LAN (Local Area Network) technology, electronic calculations, printers, FAX machines, and reprographics.

306-3 Records Management
Procedures for control of business records. Analysis of the records cycle, retention programs, storage and retrieval processes and systems, micrographics, and database management.

401-1 to 4 Office Practicum
Gives students work experience in an actual office environment while being supervised/directed by a college coordinator of business education.

411-3 Office Management and Administration
Provides a solid foundation in the theory and practice of administrative office systems. There is an emphasis on the roles of effective leadership and human relations skills in office administration and supervision. Prerequisite: ED 214 through 221 or equivalent.

Pharmacology/PHR

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

340-3 Pharmacology
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, 302.

410-3 Introduction to Pharmacology
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.

Philosophy/PHL

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course

204-3 Great Books: Philosophy
Introduction to selected great books in the history of Western philosophy chosen from each of three eras (ancient/medieval, modern, and contemporary) and examined both within their respective historical frameworks and as an exercise in critical thinking.

Departmental Courses

124-3 Social Ethics and Values
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.
204-3 Great Books: Philosophy
Introduction to selected great books in the history of Western philosophy chosen from each of three eras (ancient/medieval, modern, and contemporary) and examined both within their respective historical frameworks and as an exercise in critical thinking.

211-3 Introduction to Ethics
Survey of the important theories concerning the nature of moral value and obligation.

212-3 Introduction to Metaphysics
Survey of the important theories concerning the nature of reality, mind and body, and freedom and determinism.

213-3 Theories of Knowledge
Survey of the important theories concerning the origin, structure, methods, certainty, and validity of knowledge.

215-4 Inductive Logic
Introduction to the techniques of inductive and probabilistic reasoning with emphasis on the problems encountered in attempting to justify those techniques.

223-4 Symbolic Logic I
Introduction to the techniques of deductive logic including truth-table analysis, the propositional calculus, and predicate logic.

280-3 Philosophy of Religion: Faith and Reason
(Also listed as REL 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.

281-3 Philosophy of Religion: Contemporary Western Survey
(Also listed as REL 281.) Cross-disciplinary perspective on philosophical and religious schools of thought in the early twentieth century. Absolute and personal idealism, spirit, value, positivism and naturalism, history and culture, modernism and pragmatism, religious consciousness, and phenomenology.

301-4, 302-4, 303-4 History of Philosophy
301: pre-Socratic philosophers, Plato and Aristotle; Epicureanism, stoicism, skepticism, neo-Platonism, and early medieval philosophy.
302: medieval and Renaissance philosophy; Descartes, Spinoza, and Leibniz.
303: Locke, Berkeley, Hume, Kant, Hegel, Schopenhauer, Nietzsche, logical positivism, process philosophy, and existentialism.

323-4 Symbolic Logic II
Standard notations, principles of inference, formal systems, and methods of proof. Focus on first-order predicate logic.

341-4 Aesthetics
Study of theories concerning the nature of the work of art, aesthetic experience, the arts, and beauty.

371-4 Business Ethics
(Also listed as REL 371.) Case study and discussion of ethical issues involved in business transactions and management.

378-4 Ethics and Medicine
(Also listed as REL 378.) 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.

382-4 Philosophy of Religion: Process
(Also listed as REL 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.

383-4 Philosophy of Religion: Secular
(Also listed as REL 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.

394-4 Existentialism
(Also listed as REL 394.) Representative writers of the existentialist movement.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of philosophy. Topics vary.

401-3 Major Philosophers
Introduction to the major writings of outstanding philosophers. Involves presentation and critical examination of the philosophers' views.

414-4 Philosophy of Law
Survey of the important theories concerning the nature and justification of law, liberty, justice, responsibility, and punishment. Prerequisite: Junior or senior standing or permission of instructor.

415-4 Philosophical Problems
Detailed examination of one of the outstanding philosophical problems—ancient, medieval, and/or contemporary.

431-4 Classical and Medieval Political Philosophy
(Also listed as PLS 402.) 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.

432-4 Modern Political Philosophy
(Also listed as PLS 403.) Critical examination of political ideas from 1600 to 1900, with special attention to Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.

442-4 Philosophy and Literature
Examination of philosophical ideas found in literature, philosophical interpretations of literature, and evaluation of theories and aesthetics of literature.

443-4 Asian Religious Philosophy
(Also listed as REL 443.) 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.
471-4 Philosophy of Physical Science
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. Prerequisite: PHIL 215 or permission of instructor.

472-4 Philosophy of Social Science
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. Prerequisite: PHIL 215 or permission of instructor.

481-3 to 4, 482-3 to 4, 483-3 to 4 Independent Reading
Faculty-directed readings in philosophic literature.

Physics/PHY

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses

105-3 Sounds and Colors
Study of wave motion with an orientation toward phenomena experienced by our senses, such as musical sounds, noise, and the colors occurring in nature. Corequisite: PHY 115.

106-3 Revolutions in Physics
Study of the microscopic structure of matter; the search for the atom from molecules to fundamental particles; and quantum mechanics, relativity, and nuclear energy. Corequisite: PHY 116.

107-3 Stars, Galaxies, and the Cosmos
Introduction to astronomy with emphasis on the universe of stars and galaxies. Covers stellar evolution, astrophysics, and cosmology. Corequisite: PHY 117.

111-4, 112-4, 113-4 Principles of Physics
Introduction to fundamental phenomena, principles, and laws of physics. Prerequisite: for 111, MTH 128 or 129, or equivalent; for 112, PHY 111; for 113, PHY 112. Corequisite: for 111, PHY 101; for 112, PHY 102; for 113, PHY 103.

115-1 Sounds and Colors Laboratory
Experiments to illustrate the physical aspects of what we see and hear. Laboratory component of PHY 105 for students using the course to meet the General Education science requirement.

116-1 Revolutions in Physics Laboratory
Experiments to illustrate the phenomena and concepts of modern physics. Laboratory component of PHY 106 for students using the course to meet the General Education science requirement.

117-1 Stars, Galaxies, and the Cosmos Laboratory
Astronomical observations and measurements, laboratory experiments, and a visit to a planetarium. Laboratory component of PHY 107 for students using the course to meet the General Education science requirement.

123-3 Sun, Moons, and Planets
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. Laboratory is listed as PHY 132.

125-3 Stars, Galaxies, and the Universe
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. Laboratory is listed as PHY 135.

Departmental Courses

101-1, 102-1, 103-1 Principles of Physics Laboratory
Introductory-level laboratory problems. Corequisite: for 101, PHY 111; for 102, PHY 112; for 103, PHY 113.

105-3 Sounds and Colors
Study of wave motion with an orientation toward phenomena experienced by our senses, such as musical sounds, noise, and the colors occurring in nature. Corequisite: PHY 115.

106-3 Revolutions in Physics
Study of the microscopic structure of matter; the search for the atom from molecules to fundamental particles; and quantum mechanics, relativity, and nuclear energy. Corequisite: PHY 116.

107-3 Stars, Galaxies, and the Cosmos
Introduction to astronomy with emphasis on the universe of stars and galaxies. Covers stellar evolution, astrophysics, and cosmology. Corequisite: PHY 117.

111-4, 112-4, 113-4 Principles of Physics
Introduction to fundamental phenomena, principles, and laws of physics. Prerequisite: for 111, MTH 128 or 129, or equivalent; for 112, PHY 111; for 113, PHY 112. Corequisite: for 111, PHY 101; for 112, PHY 102; for 113, PHY 103.

115-1 Sounds and Colors Laboratory
Experiments to illustrate the physical aspects of what we see and hear. Laboratory component of PHY 105 for students using the course to meet the General Education science requirement.

116-1 Revolutions in Physics Laboratory
Experiments to illustrate the phenomena and concepts of modern physics. Laboratory component of PHY 106 for students using the course to meet the General Education science requirement.

117-1 Stars, Galaxies, and the Cosmos Laboratory
Astronomical observations and measurements, laboratory experiments, and a visit to a planetarium. Laboratory component of PHY 107 for students using the course to meet the General Education science requirement.

122-3 Revolutions in Physics
Microscopic structure of matter from the atomistic 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. Laboratory is listed as PHY 132.

123-3 Sun, Moons, and Planets
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. Laboratory is listed as PHY 133.

125-3 Stars, Galaxies, and the Universe
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. Laboratory is listed as PHY 135.
132-1 Revolutions in Physics Laboratory
Experiments stress the relationship of everyday phenomena to basic physical principles. Laboratory component of PHY 122 for students wishing to use course to meet General Education science requirements.

133-1 Sun's, Moons, and Planets Laboratory
Astronomical observations and experiments. Laboratory component of PHY 123 for students wishing to use course to meet General Education science requirements.

135-1 Stars, Galaxies, and the Universe Laboratory
Astronomical observations, laboratory experiments, and a visit to a planetarium. Laboratory component of PHY 125 for students wishing to use course to meet General Education science requirements.

200-1 General Physics Laboratory

202-1 General Physics Laboratory

204-1 General Physics Laboratory
Introductory physics laboratory problems in heat, sound, mechanics, and optics. Prerequisite: PHY 240 and 200. Corequisite: PHY 244.

210-3 General Physics
Selected topics in mechanics; introduces use of calculus in interpretation of physical phenomena. Prerequisite: PHY 112, 113; MTH 230.

211-3 General Physics
Selected topics in electricity and magnetism; introduces use of calculus in interpretation of physical phenomena. Prerequisite: PHY 112, 113; MTH 230.

215-4 Introduction to Lasers
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. Primarily for nonphysics majors. Prerequisite: MTH 128 or MTH 129, and PHY 113 or CHM 122.

240-4 General Physics
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. 3 hours lecture, 1 hour recitation. Prerequisite: MTH 229 or permission of department. Corequisite: PHY 200, MTH 230.

242-4 General Physics
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. 3 hours lecture, 1 hour recitation. Prerequisite: PHY 240, MTH 230. Corequisite: PHY 202.

244-5 General Physics
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.

245-4 Concepts in Physics
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. Elementary education majors only. Integrated lecture/lab. Prerequisite: MTH 127 or level 4 on Math Placement Test, MTH 105, ENG 102.

260-4 Introduction to Modern Physics
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.

300-3 Properties of Semiconductor Materials
(Also listed as EP 300.) Covers crystal structure, selected topics in quantum theory, electron band structure, charge carriers in semiconductors, generation recombination and motion of charge carriers, electrical and optical properties, and structure and characteristics of p-n junctions. Prerequisite: PHY 240, 242, 244, and CHM 121.

301-3 Semiconductor Device Physics
(Also listed as EP 301.) Structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Design and computer modeling of devices. Prerequisite: PHY 300/EP 300.

302-3 Semiconductor Device Processing
(Also listed as EP 302.) 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, 301, or EP 300, 301, or ME 370, or permission of instructor.

310-3 Issues in Science
(Also listed as BIO 310, CHM 310, MTH 310, and GL 310.) A writing-intensive course dealing with issues in science. Prerequisite: ENG 101, 102; a first-year science course.

315-3 Physics Instrumentation Laboratory I
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, 3 hours lab. Corequisite: PHY 260 or permission of instructor.
316-3 Physics Instrumentation Laboratory II
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, 3 hours lab. Prerequisite: PHY 215.

322-4 Applied Optics
(Also listed as EP 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. 3 hours lecture, 2 hours lab. Prerequisite: PHY 244 or equivalent; MTH 253.

371-3, 372-3 Analytical Mechanics
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 PHY 244; MTH 232. Corequisite: MTH 229.

400-3 Introduction to Solid Earth Geophysics
(Also listed as GL 400.) Basics of seismic, gravimetric, magnetic, and heat conduction principles used to determine the geophysical properties of the solid earth. Emphasis is on the deeper parts of the crust, the mantle, and the core. Prerequisite: MTH 229.

420-3 Thermodynamics
First and second laws of thermodynamics; general thermodynamic formulas with applications to matter. Prerequisite: PHY 210, 211 or 244.

421-3 Statistical Thermodynamics
Topics include kinetic theory of gases, Maxwell-Boltzmann statistics, and an introduction to quantum statistics. Prerequisite: PHY 420.

422-5 Introduction to Geophysical Prospecting
(Also listed as GL 422.) Introduction to principles of gravity, magnetic, seismic, electrical, and radioactive prospecting. 4 hours lecture, 2 hours lab. Prerequisite: MTH 229.

424-4 Gravity and Magnetic Exploration
(Also listed as GL 424.) Study of the theory of the earth’s gravitational and magnetic fields and the application of these principles to resource exploration. 3 hours lecture, 2 hours lab. Prerequisite: PHY 422 or permission of instructor.

432-3 Lasers
(Also listed as EP 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 or permission of instructor.

450-3, 451-3, 452-3 to 4 Electricity and Magnetism
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: PHY 210, 211, or 242; MTH 232, 233.

460-4 Introduction to Quantum Mechanics
Mathematical structure of quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure. Prerequisite: PHY 260, 372; MTH 333.

461-4 Introduction to Solid State Physics
Selected properties of solids and their quantitative explanation in terms of simple physical models. Applications of quantum mechanics to solids. 3 hours lecture, 2 hours lab. Prerequisite: PHY 316, 460.

462-4 Introduction to Nuclear Physics and Relativity
Examines special theory of relativity, nuclear radiation, nuclear properties, nuclear transformations, and elementary particles and interactions. Prerequisite: PHY 460.

470-3 Selected Topics
Selected topics in physics. Prerequisite: PHY 372.

480-4, 481-3, 482-3 Introduction to Theoretical Physics
Introduction to classical theoretical physics. Emphasis on mechanics, electromagnetic field theory, and mathematical techniques. Prerequisite: PHY 372, 452; MTH 333. Departmental approval required.

488-1 to 3 Independent Reading
Prerequisite: PHY 240, 242, 244; or equivalent.

494-3 Senior Projects
Selected problems in experimental and theoretical physics with critical analysis of results.

499-3 Special Honors Research Problems
Special research in a recognized branch of physics, usually related to research carried on by the department. Critical analysis of results required.

Physiology and Biophysics/P&B
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Core Courses
301-4 Human Physiology I
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, and permission of instructor.

302-4 Human Physiology II
Subject areas include gastrointestinal and metabolic systems; respiratory and renal systems; acid-base balance; endocrinology and temperature regulation. Prerequisite: P&B 301 or permission of instructor.

442-4 Introductory Neurophysiology
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. Prerequisite: BIO 105 and CHM 101 or equivalents.
469-3 Quantitative Aspects of Membrane Transport
Employ 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.

Additional Courses

488-1 Independent Reading in Physiology
Independent reading in physiological literature. A written report is required for each registered period. Optional pass/fail or letter grade.

499-1 to 4 Special Problems in Physiology
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.

Political Science/PLS

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course

200-3 Political Life
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.

Departmental Courses

200-3 Political Life
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.

210-4 Introduction to Quantitative Methods of Political Science
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 placement exam.

211-4 Empirical Political Analysis
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 permission of instructor.

212-4 American National Government
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. Prerequisite: Permission of instructor.

222-4 International Politics
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 or permission of instructor.

301-4 Modern Political Ideologies
Systematic analysis of the major political ideologies of the twentieth century with particular attention to democracy, fascism, communism, and nationalism.

Advanced Courses

305-4 Comparative Marxist Theory
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.

321-4 City Politics
(Also listed as URS 321.) Governments and politics of metropolitan regions; government structure and functions; and interest and power relations.

322-4 State Government
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.

323-4 Government of Ohio
Organization and functions of the government of Ohio with special attention to development, social structure, legal status, electoral processes, and fiscal problems.

324-4 Political Aspects of Urban Development
Institutional and political context of planning: laws, governmental structures and procedures, and urban politics.

331-4 Political Parties

335-4 The American Presidency
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.

337-4 The Legislative Process
Policy role, political functions, internal structure, and operation of Congress. Secondary concern for state legislatures and non-American legislative bodies.

340-4 Law and Society
Theories of law; in addition to the nature and functions of the judicial process.

342-4 Civil Liberties I: The First Amendment
Cases and related materials on the Bill of Rights and the Fourteenth Amendment with emphasis on the First Amendment freedoms: freedom of speech, of the press, and of religion.
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**Political Science Courses**

- **343-4 Civil Liberties II: Due Process and Equal Protection**
  - Cases and related materials on the enforcement of civil rights and liberties through the due process and equal protection claims of the Fourteenth Amendment.

- **345-4 Public Administration**
  - (Also listed as URS 345.) Nature and scope of public administration, administrative law, and public interest in the administrative process.

- **346-4 Public Personnel Administration**
  - Methods of employment, training, compensation, and employee relations in various levels of civil service. Examines organizations of public employees.

- **347-4 American Public Policy Analysis**

- **351-4 Western European Politics**
  - Comparative study of the political systems of Great Britain, France, and West Germany.

- **352-4 Politics of Nationalism**
  - Comparison of ethnic identity and politics in Western societies including the United States, Canada, Great Britain, and France. Topics include minorities and the welfare state, affirmative discrimination, and African American politics in the United States.

- **354-4 Governments of Eastern Europe**
  - Introduction to the governments and politics of Eastern Europe, particularly since World War II. Includes current developments in Poland, Czechoslovakia, East Germany, Hungary, Rumania, Bulgaria, and Yugoslavia.

- **356-4 Politics and Society in France**
  - Examines the historic interaction of French culture and politics. Topics include the growth of the French nation and state, French society, the nature of modern politics and institutions, and France's role in world affairs.

- **358-4 Latin American Politics**
  - Selected issues in the study of Latin American politics with an emphasis on the nature of the state and the role of institutions such as the military and unions in politics. Examples from major South American states and Mexico where appropriate. Prerequisite: PLS 222.

- **360-4 Politics of the Developing Nations**
  - Comparative analysis of various problems, particularly political, confronting developing nations in nation building and development.

- **364-4 Contemporary African Politics**
  - Political processes and governmental institutions of sub-Saharan Africa; special attention to dynamics of political development and social and economic change. Comparative analysis of selected African political systems.

- **366-4 Politics of the Middle East**
  - Introduction to governments and politics of the Middle East with special attention to cultural and historical background and the Arab-Israeli conflict.

- **370-4 International Theory**
  - Study of recent findings in international politics. Explanations of world political developments such as war, alliance formation, and arms races. Prerequisite: PLS 222.

- **371-4 Current World Problems**
  - Various views and perspectives on selected contemporary problems and trends in international politics.

- **376-4 Peace Studies**
  - Study of war, peace, and current efforts in dealing with international conflict. Examines the roots of war in American society and alternative strategies for elimination of war as an instrument of policy.

- **380-4 American Foreign Policy**
  - Role of the United States in contemporary international politics and the relationship of the domestic political system to that role. Discussion of current problems. Prerequisite: PLS 222.

- **381-4 National Security Policies**
  - Study of U.S. national defense and security policy process and the major strategic issues facing the U.S. government. Prerequisite: PLS 200 and major core courses.

- **382-4 U.S.-Japan Foreign Relations**
  - Examines the course of the relationship between the U.S. and Japan. Includes political, security, and economic issues.

- **383-4 Soviet and Post-Soviet Foreign Policy**
  - Study of the historical and ideological origins of Soviet foreign policy with emphasis on U.S./Soviet relations and Soviet involvement in the Third World.

- **399-1 to 4 Studies in Selected Subjects**
  - Problems, approaches, and topics in the field of political science. Topics vary.

- **402-4 Classical and Medieval Political Thought**
  - (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.

- **403-4 Political Thought: Hobbes to Mill**
  - (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.

- **404-4 Twentieth-Century Political Thought**
  - Critical examination of twentieth-century political theory. Emphasis on nature, methodology, evaluation, existing condition, and future of political thought.

- **407-4 Seminar in Political Theory**
  - Readings, research, reports, and discussion on selected theorists, topics, and problems. Topics vary.

- **412-4 Topics in Empirical Political Analysis**
  - Selected topics of methodological or analytical concern in contemporary political research.

- **425-4 Seminar in Metropolitan Studies**
  - Intensive interdisciplinary treatment of metropolitan studies. Reading and discussion of pertinent theory, methodology, and case studies. Practical research by students.
427-4 Urban Policy Analysis
(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.

429-4 Urban Communications Theory
(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 an interdisciplinary systems approach.

430-4 Seminar in American Politics and Government
Selected topics related to American political institutions and processes. Emphasis on readings, discussion, and research.

431-4 Public Opinion
Opinion formation in American politics; relationship of opinion to public policy; voting behavior in American elections; role of media and political interest groups in policy process; and development of political attitudes and values.

434-4 Political Leadership
Development of political attitudes and values among leaders, activists, and the public. Relationship between personality, political leadership, behavior, and policy.

435-4 Political Corruption in America
Analysis of political corruption in America, including campaigns and elections, graft, the executive branch, congressional ethics, corruption in law enforcement, organized crime, and abuse of authority.

436-4 Criminal Law
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.

437-4 Criminal Procedure
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).

438-4 Environmental Law and Policy
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.

439-4 Bioethics and Law
Examines the legal implications of new biological technologies, particularly mind and behavior control, genetic engineering, birth and death control, and organ transplantation.

440-4 Constitutional Law
Cases in which provisions of the Constitution have been judicially interpreted. Also examines federal systems, separation of powers, and limits on government.

442-4 The American Criminal Justice System
Survey of the American criminal justice system concentrating on political aspects. Police, judges, attorneys, Supreme Court decisions, crime, and public opinion.

443-4 Administrative Law Procedure
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.

446-4 Public Budgeting
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.

447-4 Seminar in Public Administration
Selected national, state, and local problems with emphasis on legal scope of administrative power and on research methods used by staff agencies. Topics vary.

450-4 Political Institutions in Primitive Societies
(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.

453-4 Soviet Successor States
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.

460-4 Seminar on Comparative Political Systems
Readings, research, reports, and discussion of selected topics and problems. Topics vary.

470-4 Seminar in International Relations
Readings, research, reports, and discussion of selected topics and problems.

471-4 International Law
Study of rules governing the conduct of international politics with emphasis on their relevance to current world problems.

472-4 International Terrorism
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.

482-4 Legislative Internship
Experiential internship in the office of a state legislator, including office work, constituent assistance and research. Sophomore standing and permission of instructor required.

490-1 to 4 Independent Reading
Supervised individual readings on selected topics. Arranged between students and faculty member directing the study.

491-1 to 4 Independent Research
Supervised individual research on selected topics. Arranged between students and faculty member directing the study.
492-4 Independent Field Experience
Supervised individual projects. May involve intern programs in local government or other special programs.

493-4 Contemporary Problems
Advanced study in selected topics that frequently include new developments in the methodology or subject matter of the various sub fields of the discipline.

494-4 Special Topics
Study of particular political problems of contemporary significance.

Portuguese POR
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

111-4 Essentials of Portuguese
Introduction to Portuguese with an emphasis on speaking the language.

Psychology PSY
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course

105-4 Psychology: The Science of Behavior
Consideration of the causes of behavior. Includes physiological processes; learning, memory, and processing of information; perceptual, cognitive, and social changes from birth to old age; and individual differences in thoughts, feelings, and actions. Substitutions: PSY 111, 112.

Departmental Courses

105-4 Psychology: The Science of Behavior
Consideration of the causes of behavior. Includes physiological processes; learning, memory, and processing of information; perceptual, cognitive, and social changes from birth to old age; and individual differences in thoughts, feelings, and actions.

110-4 The Science of Behavior II
Fundamental principles and practices of psychology are reviewed. Topics include social behavior, adjustment and mental health, motivation and emotion, and perception.

111-4 Introductory Psychology
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.

112-4 Introductory Psychology
Introduction to basic concepts in the study of behavior with emphasis on statistics, psychological tests, development, personality, abnormal behavior, social psychology, and applied psychology.

200-2 to 4 Psychological Study of Contemporary Problems
Restricted psychological problem areas and their implications for modern society and modern intellectual thought. Topics vary. Prerequisite: PSY 105, 110 or PSY 111, 112.

201-4 Divorce: Current Perspectives
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, 110 or PSY 111, 112.

202-4 Psychology of Nonverbal Communication
Introduction to the perception of nonverbal sources of information and the impact on physical and cognitive behaviors. Prerequisite: PSY 105, 110 or PSY 111, 112.

203-4 Psychology of Health Behavior
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, 110 or PSY 111, 112.

208-4 Environmental Psychology
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, 110 or PSY 111, 112.

209-4 Behavior Modification
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, 110 or PSY 111, 112.

210-4 Psychology of Women and Men
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, 110 or PSY 111, 112.

Advanced Courses
PSY 111 and 112 are the minimum prerequisites for all advanced courses (300 and above).

300-5 Research Design and Methods
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. 3 hours lecture, 4 hours lab. Prerequisite: PSY 105, 110 or PSY 111, 112; STT 265.

304-4 Industrial and Organizational Psychology
Scientific psychological principles, procedures, and methods applied to human behavior in organizations. Prerequisite: PSY 105, 110 or PSY 111, 112.
306-4 Engineering Psychology
(Also listed as HFE 306.) Introduction to the study of human factors in the design and operation of machine systems. Prerequisite: PSY 105, 110 or PSY 111, 112.

307-4 Tests and Measurements
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, 110 or PSY 111, 112.

311-4 Abnormal Psychology
Overview of facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, and causes and treatment of abnormal behavior. Prerequisite: PSY 105, 110 or PSY 111, 112.

321-4 Cognition and Learning
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), mnemonic techniques, and amnesias. Prerequisite: PSY 105, 110 or PSY 111, 112.

323-4 Cognition and Learning Methods
Laboratory research in various areas of cognitive psychology. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 321.

331-4 Psychology of Personality
Review of contemporary theories of personality and associated research methodology. Prerequisite: PSY 105, 110 or PSY 111, 112.

333-4 Personality Research Methods
Laboratory experience in research techniques related to experimental personality. Examines problems of design with students expected to develop and implement a research proposal. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 331.

341-4 Lifespan Developmental Psychology
Survey of theory, research, and methodological issues in the study of development across the lifespan. Prerequisite: PSY 105, 110 or PSY 111, 112.

343-4 Developmental Psychology Methods
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. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 341.

351-4 Social Psychology
Survey of current theories and experimental findings regarding the determinants of social behavior. Prerequisite: PSY 105, 110 or PSY 111, 112.

353-4 Social Psychology Methods
Laboratory course in methods and problems involved in social psychology research. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 351.

361-4 Conditioning and Learning
Introduction to experimental findings and contemporary theories of conditioning, learning, and motivation. Prerequisite: PSY 105, 110 or PSY 111, 112.
432-4 Practicum in Applied Psychology
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.

433-4 Developmental Psychopathology
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 341 or equivalent.

439-4 Theory and Research in Clinical Psychology
Overview of contemporary clinical approaches, research techniques, and empirical data. Prerequisite: PSY 331, 411.

441-4 Advanced Topics in Developmental Psychology
Development of learning and cognition in children covered in depth. Prerequisite: PSY 341.

443-4 Psychometrics
Emphasis on measurement theory and its applications including concepts of reliability, validity, discrimination, and prediction. Prerequisite: PSY 300.

444-4 Advanced Industrial Psychology
Theories and research findings in selected topics in industrial psychology. Prerequisite: PSY 300, 304 or permission of instructor.

447-4 Psychology of Aging
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.

450-4 Biofeedback: Research and Application
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.

451-4 Advanced Topics in Social Psychology
Detailed examination of selected areas of current research in social psychology. Prerequisite: PSY 351.

465-4 Information Processing
Study of information processing skills such as selective attention, pattern recognition, reading, problem solving, and human performance. Prerequisite: PSY 321.

471-4 Advanced Topics in Perception
Emphasis on modern controversial issues and theories. Prerequisite: PSY 371.

475-4 Signal Detection Theory in Psychology
Presents signal detection theory in the context of Thurstonian 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.

478-4 Animal Behavior
Physiology, phylogeny, and ontogeny of behavior. Prerequisite: BIO 112, 114, 115; or BIO 105, 106, 107; or PSY 111, 112, 300.

481-4 History of Psychology
Major trends in the development of psychology from its beginnings to the modern period.

488-1 to 4 Seminar in Special Topics
Topics vary.

489-2 Honors Seminar
Primarily derived from current honors thesis research. Literature surveys, experimental designs, and special analytical problems presented and discussed by students and faculty. Topics vary.

490-1 to 4 Independent Readings
Specific topics selected by students and instructor. Graded pass/unsatisfactory.

498-1 to 4 Independent Research
Original problems for investigation. Graded pass/unsatisfactory.

499-1 to 4 Honors Research Project
Original problems for investigation leading to a psychology department honors thesis.

Regional Studies/RST/RSE
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Courses
RST 260-3 Regional Studies: Asia
Introduction to the environments, human organizations, and populations of selected regions or countries in Asia, providing an overview of the region with focus on a particular part of the region such as Japan, China, or South Asia. Titles vary.

RSE 260-3 Asia: China
Brief introduction to Asian environments and cultures and a detailed examination of the development of China and of the conflict between traditional values, cultural patterns, and current development efforts.

RST 270-3 Regional Studies: Africa
Introduction to African environments; diversity of cultural heritages; changes due to modernization; colonialism, slavery, and independence; a brief survey of the relations of Africa to other non-Western regions; and the contribution of Africa to world civilization.

RST 280-3 Regional Studies: Latin America
Survey of non-Western societies including Indians, mestizos, blacks, and the peasantry, from pre-Columbian and African origins to the present, in terms of ideology, organization, social structure, culture, and economic activities.

RST 290-3 Regional Studies: The Middle East
Introduction to the history, peoples, cultures, and geography of the Middle East from Mauritania to Pakistan from the seventh century to the present.

Departmental Courses
RST 260-3 Regional Studies: Asia
Introduction to the environments, human organizations, and populations of selected regions or countries in Asia, providing an overview of the region with focus on a particular part of the region such as Japan, China, or South Asia. Titles vary.
RST 260-3  Asia: China
Brief introduction to Asian environments and cultures and a detailed examination of the development of China and of the conflict between traditional values, cultural patterns, and current development efforts.

RST 270-3 Regional Studies: Africa
Introduction to African environments; diversity of cultural heritages; changes due to modernization; colonialism, slavery, and independence; a brief survey of the relations of Africa to other non-Western regions; and the contribution of Africa to world civilization.

RST 280-3 Regional Studies: Latin America
Survey of non-Western societies including Indians, mestizos, blacks, and the peasantry, from pre-Columbia and African origins to the present, in terms of ideology, organization, social structure, culture, and economic activities.

RST 290-3 Regional Studies: The Middle East
Introduction to the history, peoples, cultures, and geography of the Middle East from Mauritania to Pakistan from the seventh century to the present.

Rehabilitation/RHB
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

201-4 Introduction to Rehabilitation
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.

202-4 Rehabilitation Resources
Prepares students to locate, evaluate, and use local, state, and federal resources available to meet the needs of the disabled and disadvantaged. Information includes obtaining funds to establish programs and organizations via proposal writing. Graded pass/unsatisfactory. Prerequisite: RHB 201.

213-3 Introductory Field Experience in Rehabilitation Services
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. Prerequisite: RHB 201.

214-3 Rehabilitation Services Interviewing
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.

223-3 Advanced Field Experience in Rehabilitation Services
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. Prerequisite: RHB 201, 213, 214.

301-4 Medical Aspects of Rehabilitation I
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.

303-4 Strategies for Employing Persons With Disabilities
Overview of job development and job placement techniques. Various methods to access the job market through job seeking skills, résumé 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.

304-4 Rehabilitation Casework
Assists students in acquiring skills in interviewing, case recording, writing rehabilitation plans with appropriate justifications, and case management. Prerequisite: RHB 201, 202, 301.

305-4 Substance Abuse: Societal and Human Issues
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, 301 or permission of instructor and junior standing.

370-1 to 3 Independent Study/Minor Problems in Rehabilitation
Independent study in areas of interest to students that are not readily available in any existing course. Topics vary. Graded pass/unsatisfactory.

401-4 Functional Disorders
Techniques used to rehabilitate clients disabled by psychiatric, neurololgic, or character-trait disorders, chemical dependency, or mental deficiency. Consideration is given to the uniqueness of problems encountered by clients as they return to society. Prerequisite: RHB 201, 301; PSY 311.

402-4 Vocational Evaluation/Assessment
Assists students in developing knowledge and skills essential to the interpretation and use of diagnostic information. Vocational evaluation, history, process, requirements, techniques, and reports are examined. Hands-on experience in various vocational evaluation settings is an integral part of the course. Prerequisite: RHB 201, 202, 301.
Rehabilitation

403-4 to 12 Rehabilitation Practicum
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.

404-4 Rehabilitation Seminar
Problems and programs of special interest in rehabilitation. Prerequisite: RHB 201, 301, 402.

405-3 Rehabilitation of the Deaf I
Manual communication techniques for professionals preparing to work in rehabilitation or other programs for the deaf.

406-3 Rehabilitation of the Deaf II
Continued introduction to manual communication for professionals preparing to work in rehabilitation or for anyone interested in acquiring expertise in the area of sign language. Emphasis is given to conversational skills. Prerequisites: RHB 201, 202, 301, 304, CNL 461.

407-4 Principles of Rehabilitation Counseling
Focuses on the development of basic skills and attitudes associated with rehabilitation counseling. Emphasis is given to language, interviewing techniques, and holistic approaches. Prerequisites: RHB 201, 202, 301, 304, CNL 461.

470-1 to 3 Special Topics
Special workshop courses to meet the needs of inservice 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.

499-1 to 4 Special Problems in Rehabilitative Sciences
Enables students to explore selected research topics related to the rehabilitation of various patient populations. Students and faculty advisors interact to establish specific course requirements.

Religion

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course

204-3 Great Books: The Bible and Western Culture
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.

Departmental Courses

205-3 What is Religion?
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.

206-3 Eastern Religions
General introduction to the major religious traditions of South Asia and East Asia: Hinduism, Buddhism, Confucianism, Taoism, and Shintoism.

207-3 Western Religions
General introduction to the major religious traditions of Judaism, Christianity, Islam, and other selected religious traditions.

208-3 Contemporary Issues in Religion
Study of selected problems, ideas, and religious developments that have become important in contemporary society.

220-3 Hebrew Scripture (Old Testament)
Introduction to the literature, history, and religion of ancient Israel.

221-3 Between the Testaments
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.

222-3 Literature and Religion of the New Testament
Introduction to the literature, history, and religion of early Christianity.

230-3 Introductory American Religion Studies
Introduction to specific segments of American religious life. Focuses on one or more distinctive religious groups or movements in the context of American history and culture.

231-3 Religion and the American Experience
Survey of different religions in the United States with attention to the growth of a distinctive form of religion shaped by the American experience.

235-3 Introduction to the Afro-American Religious Experience
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.

245-3 World Religions
Comparative study of the role of religion in cultures and societies on the international scene.

246-3 African Religion
Comparative study of the role of religion in premodern African tradition.

270-3 Approaches to Religious Ethics
Examination of various religious ethical systems from diverse cultural situations.

280-3 Philosophy of Religion: Faith and Reason
(Also listed as PHL 280.) 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.

281-3 Philosophy of Religion: Contemporary Western Survey
(Also listed as PHL 281.) Cross-disciplinary perspective on philosophical and religious schools of thought in the early twentieth century. Absolute and personal idealism, spirit, value, positivism and naturalism, history and culture, modernism and pragmatism, religious consciousness, and phenomenology.
290-3 Current Problems
Investigation and discussion of a single current problem in the field of religion.

310-4 Early and Medieval Western Religious Thought
Survey of important themes in religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.

311-4 Reformation and Modern Western Religious Thought
Survey of important themes in the religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.

315-4 Christianity
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.

316-4 Judaism: Faith and People
Examination of Judaism as a religious faith and people, with special reference to formative historical, social, ethnic, and cultural factors.

318-4 Contemporary Jewish Thought
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).

321-4 Religions in the Biblical Period
Examination of selected religious movements and/or problems in the Biblical period, and their interconnectedness and mutual influences.

322-4 Topics in Biblical Literature
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.

330-4 Topics in American Religion
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.

340-4 Topics in Asian Religion
Studies in the religious dimension of Asian cultures with attention to historical, social, and aesthetic perspectives.

341-4 Islam
Study of the origin and development of Islam including contemporary issues and problems.

344-3 Religion in Japanese Life
Examination of the role of religion in Japanese culture and society with attention to both historical development and current issues.

357-4 Understanding Death
Basic issues in death and dying using resources from human sciences and humanities in religious perspective.

361-4 Religion and Society
(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.

362-3 Anthropology of Religion
(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.

363-4 Religion and Psychology
Introduction to selected themes, issues, and problems in the interaction of religion and psychology. Differing points of view are considered.

370-4 Studies in Ethics
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.

371-4 Business Ethics
(Also listed as PHL 371.) Case studies and discussion of ethical issues involved in business transactions and management.

378-4 Ethics and Medicine
(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.

382-4 Philosophy of Religion: Process
(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.

383-4 Philosophy of Religion: Secular
(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.

390-4 Studies in Selected Subjects
Problems, approaches, and topics in the field of religion. Topics vary.

394-4 Existentialism
(Also listed as PHL 394.) Representative writers of the existentialist movement.

435-3 Black American Religious Thought
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.

443-4 Asian Religious Philosophy
(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.
COURSES

Religion

Russian

Social Work

456-4 Religious Themes in Literature
(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.

479-3 Ethics in an Industrial Society: The Responsibility of Business in Society
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.

487-4 Evolution, Religion, and Ethics
(Also listed as BIO 417.) Introduction to the biological, philosophical, theological, and ethical aspects of evolution.

490-1 to 4 Independent Reading

493-4 Seminar in Religion
Topics vary.

494-1 to 4 Undergraduate Research in Religion
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.

497-4 Foundations for Religion Studies
Introduction to various methods used in religion studies and an application of these methods to concrete data.

498-3 Workshop
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.

Russian/RUS

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-4, 102-4, 103-4 First-Year Russian
Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing.

201-4 Second-Year Russian
Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 103.

202-4 Second-Year Russian
Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 201 or equivalent.

203-4 Second-Year Russian
Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 202 or equivalent.

311-4, 312-4 Russian Conversation
Emphasis on the culture of the Russian-speaking world. Prerequisite: RUS 203 or equivalent.

331-4, 332-4 Survey of Russian Literature
Historical survey of Russian literature from its beginning to the present. Prerequisite: RUS 203 or equivalent.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of Russian. Topics vary.

Social Work/SW

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

270-4 Social Work as a Profession
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.

271-4 Social Welfare and Social Services
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.

375-4 Human Behavior in Social Functioning
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. (Previously listed as SW 280.)

380-4 Basic Practice Theory
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.

389-2 to 4 Seminar on Special Problems in Social Work Practice
Selected topics related to current issues in social work practice; readings, research, and discussion.

394-2 to 4 Readings in Social Work
May be taken for letter grade or pass/unsatisfactory.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of social work. Topics vary. May be taken for letter grade or pass/unsatisfactory.

462-4 Social Gerontology
(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: One of the following: SW 270, SW 271, permission of instructor, SON student, or admission to the Gerontology Certificate Program.

463-4 Social Gerontology II
Continuation of social gerontology. Prerequisite: SW 462 or equivalent experience.

464-4 Racial and Ethnic Awareness in the Human Services
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.
470-4 Social Welfare Policy
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.

480-3 to 4 Gerontology Practicum
Supervised learning under direction of faculty and agency staff. Ten weeks/20 hours per week, or twenty weeks/10 hours per week. Prerequisite: SW 462/SOC 462.

481-4 Generalist Practice with Individuals
In-depth study of generalist social work practice theory for the enhancement of social functioning of individuals. Prerequisite: SW 375, 380, and 490.

482-4 Generalist Practice with Groups
In-depth study of generalist social work practice theory for the enhancement of social functioning of small groups. Prerequisite: SW 375, 380, and 490.

483-4 Generalist Practice with Families
In-depth study of generalist social work practice theory for the enhancement of family social functioning. Prerequisite: SW 375, 380, and 490.

484-4 Generalist Practice with Organizations and Communities
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.

487-4 to 12 Practicum in Social Work
Application of theory to practice in agency settings. Individual supervised learning experiences and on-site seminars under direction of instructor and agency staff. Prerequisite: SW 481.

490-4, 491-4 Research Methods in Social Work I, II
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: for 490, SW 271; for 491, SW 490.

Sociology/SOC
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

General Education Course
200-3 Social Life
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.

200-3 Social Life
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.

201-3 Modern Society
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?

202-1 SIMSOC (Simulated Society)
SIMSOC is a learning game designed to supplement the materials covered in introductory sociology courses. The game involves students as members of a simulated society. May be taken for letter grade or pass/unsatisfactory. Pre- or corequisite: SOC 200.

203-2 SIMSOC II
Builds on experience of SIMSOC I and analyzes societal processes: small group interaction, stratification, leadership roles, political and economic philosophies, and minority relations. Students simulate a society and analyze experience. Graded pass/unsatisfactory. Prerequisite: SOC 202.

204-2 Sociology Career Seminar
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.

210-3 Courtship and Marriage Analysis
Analysis of family behavior in the United States stressing courtship, preparation for marriage, developmental tasks in marriage, child rearing, and marital tension.

221-3 Exploring Social Issues
Focuses on specific social problems. Topics vary.

231-3 Violence
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.

301-4 History of Sociological Theory
Historical study of the emergence and development of sociological thought from Adam Ferguson and Montesquieu through the nineteenth century; emphasis on the basic writings of Comte, Spencer, Marx, and others.

303-4 Contemporary Sociological Theory
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 twentieth century.

306-4 Introduction to Research Methods
Philosophical and applied issues of sociological investigation. Various means of collecting sociological data are analyzed. Prerequisite: SOC 200 or 201.
310-4 Sex and Gender Roles
Explores cross-cultural sociological knowledge and theories concerning origin/nature of sex roles; stratification of sexes in various societies; sex roles in institutions of family, education, religion, politics, economics, and health; and other topics including socialization and media.

312-1 to 6 Workshop in Current Problems
Intensive study of a particular problem area using professionally qualified personnel from the academic and community environments. Titles vary. May be taken for letter grade or pass/unsatisfactory.

313-1 Intensive Alcohol Education Program
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.

314-1 to 6 Workshop in Current Problems
Intensive study of a particular problem area using professionally qualified personnel from the academic and community environments. Titles vary. May be taken for letter grade or pass/unsatisfactory.

315-3 Drug and Alcohol Intervention Workshop
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: (one of the following) CNL 461; PSY 311, 331; RHB 301, 407; SW 270, 481, 482, 483; SOC 320, 461; premedical concentration; prenursing concentration; or permission of instructor.

320-4 Sociology of Deviant Behavior
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.

330-4 Criminology
Survey of crime, some causal theories, and attempts at crime prevention in the United States. Prerequisite: SOC 200 or 201.

332-4 Juvenile Delinquency
Problems of definition and treatment of delinquency. Preparation for further study and work with delinquents.

340-4 Social Organization
Theories and analysis of social organization in its historical and present context. Emphasis on the interrelationship between individuals, the family, and other institutions.

341-4 Social Inequality
Structures, theories, and consequences of social inequality with special emphasis on the United States.

342-4 The Demography of Human Populations
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.

345-4 Social Change
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.

350-4 Occupations and Society
Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work. Prerequisite: SOC 200 or 201.

360-4 Sociology of Family
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.

361-4 Religion and Society
(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.

363-4 Sociology of Education
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.

380-4 Individual and Society
Interaction between society and the individual, forms and content of social relationships, and socialization as a social process. Emphasis on the basic writings of G. H. Mead and others.

390-2 to 4 Directed Readings in Sociology
Readings in areas of specialized interest. May be taken for letter grade or pass/unsatisfactory.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of sociology. Topics vary.

406-4 Applications of Research Methods
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.

420-4 Human Sexual Alternatives
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.

432-4 Penology
Historical development and critical assessment of penal institutions. Field visits to selected institutions. Prerequisite: SOC 330 or 332 or permission of instructor.

433-4 Internship in Corrections and Family
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.
439-4 Selected Topics in Problems/Deviance
Topics vary. Prerequisite: SOC 200 or 201.

440-4 Bureaucracy and Bureaucrats
Examination of the nature of modern bureaucratic organizations, their place in society, and consequences of bureaucratic forms for their members and society.

441-4 Industrial Sociology
Cross-cultural analysis of industrialization; organization of relationships within industrial social groups.

442-4 Race and Minority Relationships
Study of intergroup, racial, and ethnic group relations including the processes and consequences of conflict, prejudice, and discrimination.

443-4 South Africa and Apartheid
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.

444-4 Urban Sociology
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.

446-4 Neighbors and Communities
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.

450-4 Stress Management
An investigation and analysis of contemporary theories that suggest an interrelationship between personal stress, distress, varying lifestyles, and a rapidly changing society with transitional values and norms.

461-4 Medical Sociology
Social dimension of health and illness. Consideration of the patterns of disease, along with the organization, provision, and delivery of medical services.

462-4 Social Gerontology
(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: One of the following: SW 270, SW 271, permission of instructor, SON student, or admission to the Gerontology Certificate Program.

463-4 Social Gerontology II
Continuation of social gerontology. Explores in-depth concepts and issues related to aging. Prerequisite: SOC 462 or permission of instructor.

470-4 The Future of the Family
Investigation, analysis, and discussion of contemporary research focusing on the family as a changing social institution.

489-4 Selected Topics in Social Interaction
Titles vary.

490-2 to 4 Independent Research in Sociology
Field project in an area of interest. May be taken for letter grade or pass/unsatisfactory.

Spanish/SPN
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

101-4, 102-4, 103-4 First-Year Spanish
Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing.

111-4 Essentials of Spanish
Introduction to Spanish with an emphasis on speaking the language.

150-4 Spanish Grammar Review
A thorough review of Spanish grammar with an emphasis on oral practice.

201-4, 202-4, 203-4 Second-Year Spanish
Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: For 201; SPN 103 or equivalent. For 202; SPN 201 or equivalent.

Advanced Courses

311-4, 312-4 Spanish Conversation
Practice in oral use of Spanish emphasizing the culture of the Hispanic world. Prerequisite: SPN 203 or equivalent.

321-4, 322-4 Spanish Composition
Oral and written composition in Spanish; translations from English into Spanish. Prerequisite: SPN 203 or equivalent.

323-4 Spanish Composition
Oral and written composition in Spanish; translations from English into Spanish. Further grammar study. Prerequisite: SPN 203 or equivalent.

331-4, 332-4 Survey of Spanish Literature
Historical survey of Spanish literature. 331: from the beginning to romanticism. 332: romanticism to the present. Prerequisite: SPN 312 and 322 or permission of instructor.

333-4, 334-4 Survey of Spanish-American Literature
Reading of prose, poetry, and plays by Spanish-American writers. 333: from pre-Columbian times to romanticism. 334: romanticism to the present. Prerequisite: SPN 312 and 322 or permission of instructor.

361-2 Spanish Phonetics
Study of the vowel and consonant sound system through phonetic method; intonation. Prerequisite: SPN 312 and 322 or permission of instructor.

SPN 312, 322, 332, and 334 or permission of instructor are prerequisites for the following advanced courses:

381-1, 382-1, 383-1 Applied Elementary Spanish Instruction
Spanish majors assist elementary course instructors in conducting classes. For Spanish majors only.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of Spanish. Topics vary.

401-4 The Spanish Picaresque Novel
Intensive reading of such works as Lazarillo de Tormes, Vida del Buscon, and Guzman de Alfarache.
262-4 The Spanish Novel of the Nineteenth Century
Nineteenth-century prose work by Galdos and others.

403-4 Advanced Studies: Language/Civilization
Topics vary. Conducted in Spanish.

411-4 Golden Age Drama
Intensive readings of dramas by playwrights of the sixteenth and seventeenth centuries.

412-4 Modern Drama
Intensive readings of dramas by playwrights of the nineteenth and twentieth centuries.

421-4, 422-4 Cervantes
Intensive study of the works of Cervantes including Don Quixote, novelas ejemplares, entreremeses, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time.

431-4 Seminar in Spanish Literature
Intensive study of selected topics in peninsular literature. Background lectures, oral reports, and discussions. Topics vary.

432-4 Seminar in Spanish-American Literature
Intensive study of selected topics in Spanish-American literature. Background lectures, oral reports, and discussions. Topics vary.

441-4 Contemporary Spanish Literature
Readings in the novel, poetry, and drama of major Spanish writers in the post-Civil War period.

442-4 Contemporary Latin-American Literature
Readings in the novels, poetry, and drama of various Latin-American writers from the late 1930s to the present.

450-1 to 4 Undergraduate Research in Spanish
Topics vary.

462-4 The Generation of 1898
Novel, poetry, and theatre of Unamuno, Baroja, and others.

481-4, 482-4 Independent Reading for the Advanced Student
Topics vary.

Statistics/STT

265-4 Elementary Statistics II
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.

343-3 Probability and Statistics for Elementary/Middle School Teachers
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 elementary and special education majors only. Prerequisite: MTH 244.

360-4 Applied Statistics I
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 230, or equivalent.

361-4 Applied Statistics II
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: For 360, completion of two calculus courses; For 361, STT 360.

363-3 Engineering Statistics
Introduction to probability, distributions, and statistical methods; using calculus to develop the necessary theory. Prerequisite: MTH 232.

367-2 Introduction to SAS
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.

386-1 to 5 Independent Reading in Statistics and Probability
Topics vary.

396-1 to 5 Topics in Statistics and Probability
Titles vary. May be taken for letter grade or pass/unsatisfactory.

401-4 Nonparametric Methods
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.

411-4 Applied Time Series
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.
424-4 Statistical Control Methods for Quality and Productivity I
Control charts including adaptations, acceptance sampling for attributes and variables data, acceptance plans, sequential analysis, statistics and probability distributions, and applications. Prerequisite: STT 360 or 363 or permission of instructor.

426-4 Reliability and Life Data
Presentation of important models and methods, and analysis of lifetime and survival data. Prerequisite: STT 361 or equivalent.

428-4 Queuing Theory
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. Prerequisite: STT 360 or 363 or equivalent.

430-4 Environmental Statistics
The statistical methods suitable for the collection, analysis and the 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.

461-4 Theory of Statistics I
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 361, MTH 232; or permission of instructor.

462-4 Theory of Statistics II
Hypothesis testing, linear model, and nonparametric methods. Prerequisite: STT 461 or permission of instructor.

464-4 Biostatistics
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.

466-4 Statistical Methods I
Classical statistical techniques for analysis and 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, STT 265 or 361 or equivalent.

467-4 Statistical Methods II
Continuation of STT 466. Includes analysis of variance, multiple comparisons, factorial experiments, analysis of covariance, and randomized block designs. Explanatory data analysis. Prerequisite: STT 466.

469-4 Introduction to Experimental Designs
Use of techniques of experimental designs, blocking, Latin squares, and regression design. One or more statistical computing packages are used to analyze resulting data. Emphasis on applications to various areas of scientific research. Prerequisite: STT 361 or permission of instructor.

486-1 to 5 Independent Reading in Statistics and Probability

492-3 Undergraduate Statistics Seminar
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 ten students. Mathematics majors with statistics option only.

496-1 to 5 Topics in Statistics and Probability

Study Skills/SS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

Credit for Study Skills Courses
Credit for these courses does not count toward a degree.

071-5 Reading Improvement I
To help severely underprepared students acquire the skills and confidence necessary to reduce the passive chores aspects of reading in order to stimulate an enthusiasm for learning in general. Graded pass/unsatisfactory.

072-6 Basic Writing Skills I
Provides intensive instruction for students whose writing skills are significantly below those necessary for success in university-level writing requirements. Graded pass/unsatisfactory.

073-5 Basic Mathematics I
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.

081-5 Reading Improvement II
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 a book report on an outside reading. Graded pass/unsatisfactory.

082-6 Basic Writing Skills II
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.

083-5 Basic Mathematics II
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.
087-1 College Study Strategies  
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.

091-3 Reading Improvement III  
Individual instruction designed to help students improve reading skills. Demonstrates how to improve levels of concentration, comprehension, and retention. Special topics include vocabulary, spelling enrichment, and research.

092-4 Fundamental English Skills  
Prepares students for success in English 101 by giving them instruction and activities in the fundamentals of the writing process. Graded pass/unsatisfactory.

093-3 Basic Math Skills III  
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.

094-3 Critical Reading Improvement  
Critical analysis of content area readings. Emphasis on recognizing organizational patterns; distinguishing fact from opinion; problem solving; logical reasoning; recognizing author’s background, intent, attitude, bias, and tone; making inferences; and recognizing propaganda and persuasive writing.

Theatre/TH

Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

See Motion Pictures/TH and Dance/DAN for additional course listings.

General Education Course

214-3 The Theatre in Western Culture  
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.

Departmental Courses

100-1 Musical Theatre Voice  
Half-hour musical theatre voice lessons per week for theatre majors only.

102-3 Introduction to Technical Theatre  
General survey of technical aspects of theatre including its personnel and organization.

110-1 to 3 Theatre Management Activities  
Participation in University Theatre productions; specific assignments determined at initial meeting.

120-2 Makeup for the Theatre  
Theory and practice of stage makeup. Prerequisite: TH 102.

124-3 Theatre Graphics I: Fundamentals  
Drawing for the theatrical designer with emphasis on fundamentals.
228-3 Scenery Technology
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. Prerequisite: TH 220.

229-3 Costume Technology
Introduction to the basics of theatre costume technology. Includes fundamentals of construction, aging, dying, and distressing of costumes.

240-1, 241-1, 242-1 Movement for the Actor I
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 majors only.

244-3, 245-3, 246-3 Acting II
Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter. Prerequisite: for 244, TH 146.

254-2, 255-2, 256-2 Theatre Speech I
Second year of speech 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: for 255, TH 254; for 256, TH 255. Corequisite: for 254, TH 244; for 255, TH 245; for 256, TH 246.

301-3 Introduction to Theatrical Design
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.

304-4 Dramatic Writing
(Also listed as ENG 304.) Theory and practice of techniques of dramatic writing emphasizing writing of original plays. Prerequisite: ENG 101, 102, or permission of instructor.

310-1 to 3 Theatre Arts Management Practicum
Participation in University Theatre Arts Management activities. Specific assignments determined at initial meeting.

320-6 Applied Theatre Technology I
Practical study in technical execution. Emphasis on daily operation of theatre production facilities and shops. Participation in all major department productions required. For B.F.A. design/technology majors only. Prerequisite: completion of 18 credit hours of TH 210; TH 227, 228, 229, and permission of instructor.

321-3 Scene Painting I
Introduction to the materials and techniques used in traditional scenic painting, from basic skills (including graining, spattering, wet-blending) to the manipulation of light, shadow, and texture to create three-dimensional effects. Prerequisite: TH 225 or permission of instructor.

322-3 Scene Painting II
Further development of the skills taught in Scene Painting I, with emphasis on rendering volume, light, and realistic surface texture. Includes working portraiture, foliage, and rendering of draped fabric. Prerequisite: TH 321 or permission of instructor.

323-3 Scene Painting III
Continued work in trompe l’oeil techniques, emphasizing ability to reproduce accurately from source material. Introduction to the use of applied textures and painting translucencies. Prerequisite: TH 322 or permission of instructor.

324-3 Lighting Design
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.

325-3 Set Design
Study of scenic design and the dynamics of stage space use. Includes project design work with an emphasis on professional technique and period design.

326-3 Costume Design
Study of costume design for the theatre. Includes project design work with an emphasis on professional technique and period design.

328-3 Decorative Style through the Ages
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.

329-3 Clothing Style through the Ages
Costume and fashion from prehistoric to modern times. Overview of the history of costume and fashion and how it relates to theatre.

340-2, 341-2, 342-2 Movement for the Actor II
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: for 340, TH 246.

344-3, 345-3, 346-3 Acting III
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: for 344, TH 246.

350-4 Directing
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. Prerequisite: TH 244.

351-3 Stage Management
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.

352-2 Directing Laboratory
Presentation of a one-act play in the studio theatre for departmental and public audiences. Prerequisite: TH 350.
354-2, 355-2, 356-2 Theatre Speech II
Speech for the classical stage. Emphasis on
unique demands of communication of dramatic
verse text through exploration of Shakespeare,
Molière, and Restoration playwrights. Particular
attention given to diction or the art of emphasis to
illuminate poetic language. Prerequisite: for 354,
TH 256; for 355, TH 354; for 356, TH 355.
Corequisite: for 354, TH 344; for 355, TH 345;
for 356, TH 346.

360-3 The History of the Theatre I
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.

361-3 The History of the Theatre II
Survey of the history and development of
theatrical production from the 17th century
through the present day. Emphasis on the history
of play production.

366-3, 367-3, 368-3 Theatre Repertoire I, II, III
Special problems of analysis, acting, and staging
plays from various periods of theatre history are
explored from a production point of view. 366:
from Aeschylus to Jonson. 367: from Beaumont
to Chekhov. 368: from Shaw to Albee.

370-3 Creative Dramatics
Study of the nature of creativity in children and of
the techniques that develop sensitivity, bodily
freedom, characterization, and impression.

375-3 Theatre Management
Operational procedures for school, community,
and professional theatre. Includes problems of
organization, personnel, budgeting, purchasing,
accounting, ticket sales, publicity, promotion, and
house management.

390-2 to 4 Projects in Theatre
Advanced individual work.

399-1 to 4 Studies in Selected Subjects
Course of variable content dealing with problems,
approaches, and topics in the field of theatre.

410-1 to 3 Stage Management Practicum
Participation in University Theatre Stage
Management activities. Specific assignments
determined at initial meeting.

420-6 Applied Theatre Technology II
Intensive study of selected aspects of technical
theatre. Titles vary. Prerequisite: completion of 18
credit hours of TH 320 required.

424-6, 425-6, 426-6 Advanced Design Studio
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.
Prerequisite: for 425, TH 424; for 426, TH 425.

427-3 Advanced Stagecraft
Advanced study of stagecraft practices including
complex scenery layout, rigging, power drive
systems, and materials. For B.F.A. design/
technology majors only. Prerequisite: TH 220,
227, 229.

429-3 Advanced Theatre Crafts
Lecture/workshop class with variable topics
including property and furniture building, scenic
painting, welding, draping, etc. Topics vary.

440-2, 441-2, 442-2 Movement for the Actor III
Visualizing techniques along with specific
analysis of the ideas of LeCoq, Marceau,
Alexander, Davis, and others. For B.F.A. studio
acting majors only. Prerequisite: for 440,
TH 342; for 441, TH 440; for 442, TH 441.

444-3, 445-3, 446-3 Acting IV
Second year of Professional Actor Training
program. Prerequisite: for 444, TH 346.

447-3, 448-3 Acting Thesis Project
Intensive work on a final creative performance
project. For senior acting studio majors only.
Graded pass/unsatisfactory. Prerequisite: TH 444.

450-3 Studies in Directing
Provides intensive study of selected aspects of
directing for the theatre. Titles vary.

451-3, 452-3 Directing Thesis Project
Original directed research culminating in a
creative performance project. For B.F.A. directing
majors only. Prerequisite: TH 352.

454-2, 455-2, 456-2 Theatre Speech III
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. Prerequisite: for 454, TH 356; for
455, TH 454; for 456, TH 455. Corequisite: for 454,
TH 444; for 455, TH 445; for 456, TH 446.

495-3 to 12 Workshop in Theatre
Intensive study of special topics or problems, or
intensive experience in theatrical presentation
according to particular needs of participants.
Titles vary.

498-12 to 15 Professional Theatre Internship
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.

University Division/UD
Note: See quarterly class schedule or departmental
advisor for further enrollment restrictions,
requirements, or special course information.

101-2 Freshman Seminar: The University Experience
Interactive presentation and discussion of college
student life and adjustment issues, academic
strategies, academic requirements and
information, organization of the university, and
career development.

University Honors/UH
Note: See quarterly class schedule or departmental
advisor for further enrollment restrictions,
requirements, or special course information.

101-1 to 4 Directed Study
Faculty-directed research or reading.
201-3 to 4 Studies in the Humanities
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.

202-3 to 4 Studies in the Social Sciences
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.

203-4 Studies in the Natural Sciences
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.

400-3 to 4 University Honors Seminar
Emphasis on broadly interdisciplinary topics or issues. Topics vary.

Urban Affairs/URS
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

311-4 Introduction to Urban Affairs
Interdisciplinary introduction to general field of urban affairs. Reviews idea of the city and meaning of urban life.

316-4 American Urban History
(Also listed as HST 316.) Urban history in its broadest sense from the ancient world to the present, providing historical perspective to the contemporary urban-urban-metropolitan phenomenon and exploring how and why urban civilization came to be.

317-4 Urban Planning I: Introduction to Urban Planning
(Also listed as GEO 311.) 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.

318-4 Urban Planning II: Principles of Planning
(Also listed as GEO 312.) 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.

321-4 City Politics
(Also listed as PLS 321.) Governments and politics of metropolitan regions, government structure and functions, and interest and power relations.

345-4 Public Administration
(Also listed as PLS 345.) Nature and scope of public administration; administrative law; and public interest in the administrative process.

399-4 Studies in Selected Subjects
Problems, approaches, and topics in the field of urban affairs. Topics vary.

411-4 Seminar in Urban Affairs
Includes development of a major research paper and a bibliography in urban affairs. Prerequisite: URS 311.

412-4 Cities and Technology
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.

425-4 Issues in Urban Development
Explores issues that impact urban development such as housing, pollution, and privatization. Emphasizes an approach for understanding the issues and formulating effective responses.

427-4 Urban Policy Analysis
(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.

450-4 Ethics in Public Service
Systematic development of ethics in public service, including individual roles and obligations, values, standards, and codes of conduct.

470-4 Urban Leadership
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.

475-4 Management of Urban Nonprofit Agencies
Examines the organizational and managerial foundations of nonprofit organizations. Areas such as the nature and mission of nonprofit organizations, evaluating performance, resource development/fundraising, and managing volunteers are explored.

490-1 to 4 Special Topics
Advanced study in selected topics in urban studies. Topics may include new developments in methodology or the various subfields of the discipline.

492-6 Urban Affairs Internship
Senior-level internship in which students work in the offices of a local public agency.

Vocational Education/VOE
Note: See quarterly class schedule or departmental advisor for further enrollment restrictions, requirements, or special course information.

401-1 to 4 Marketing Practicum
Designed to give the student valuable work experience in an actual office marketing environment while being supervised/directed by a marketing educator. Graded pass/unsatisfactory.

402-1 Field Experience I
Students will be observing the twenty-nine competencies required by the Division of Vocational and Career Education in a vocational laboratory setting. Prerequisite: VOE 460.
403-1 Field Experience II
Students will be observing the twenty-nine competencies required by the Division of Vocational and Career Education in vocationally related classes. Prerequisite: VOE 402.

404-1 Field Experience III
Students will be observing the twenty-nine competencies required by the Division of Vocational and Career Education in applied academic classes. Prerequisite: VOE 403, 461.

405-1 Field Experience IV
Students will be observing the twenty-nine competencies required by the Division of Vocational and Career Education and will be placed in vocationally funded employability and entrepreneurship classes. Prerequisite: VOE 404, 462.

407-3 Cooperative Business Education
Qualifying course for certification in a vocational cooperative business education program. Overview with emphasis on coordinating techniques applicable in high schools, post-high schools, and adult training areas. Prerequisite: EDT 433 or equivalent.

408-3 Intensive Business Education
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.

410-3 Laws and Regulations for Vocational Education
An analysis and discussion of the federal and state laws as they affect the local school agency in operating vocational education programs.

411-3 Vocational Classroom/Laboratory Management
This course consists 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. This course is a core requirement for a degree in vocational education.

412-3 School-Community Relations
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.

413-3 Introduction to Cooperative Education
Designed to present the basic fundamentals of establishing and operating a cooperative program following state and federal guidelines for work/study students.

414-1 to 3 Teaching in a Cooperative Education Program I
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.

415-1 to 3 Teaching in a Cooperative Education Program II
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.

417-2 to 8 Update Occupational Skills and Knowledge
This course 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.

418-3 Historical and Philosophical Foundations of Vocational Education
This course 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.

419-2 to 4 Internship in Teaching Vocational Education
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.

420-3 Management of Vocational Student Behavior
This course is designed to provide the vocational instructor with the opportunity to explore various management techniques which will help him or her to more effectively organize, manage and control the students in their laboratory and classroom.

422-3 Supervision of Vocational Education
Development of supervisory skills in vocational education. Stresses human relations, basic management, and leadership skills in program inauguration and operations.

423-3 Practicum for the Development of Teacher Leaders
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.
425-3 Organization and Administration for Vocational Education
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.

426-3 Adult Vocational Education
An investigation of vocational education programs for adults, including the curriculum, special methods, and the development of curriculum materials suitable to such programs.

431-3 Evaluation of Student Performance in Vocational Education
Evaluation of student performance in trade and industrial education. Prerequisite: Vocational teaching or permission of instructor.

455-3 Laboratory Safety and Accident Prevention for Vocational Teachers
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.

456-3 Vocational Student Organizations
An analysis of vocational youth organizations with emphasis on planning and conducting such programs.

458-3 Selection and Organization of a Trade and Industrial Curriculum
Provides trade and industrial instructors the competencies to prepare/refine a course of study according to the State Department of Education guidelines.

459-3 Developing Competency-Based Curriculum Materials
Provides the vocational teacher with skills to develop individualized competency-based curriculum materials suitable to workers in modern society. Includes methods of teaching academics as applied to work or laboratory skills or operations.

464-3 to 9 Methods and Strategies for At-Risk Students
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.

465-3 Occupational Related Topics: Employability and Entrepreneurship
Designed to present current requirements and methods of teaching work/employability, life and leadership skills. Includes strategies, materials, aids and learning activities to implement employability and entrepreneurship in vocational programs.

466-3 Vocational Reading Improvement
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.

467-3 Organization and Administration in Marketing Education
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 221 or equivalent.

468-4 Methods of Teaching Marketing Education
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 221 or equivalent. Corequisite: ED 323.

469-3 Coordination Techniques in Marketing Education
Procedures in organizing and implementing a marketing education program, including recruitment, selection, and evaluation of students and training stations; concurrent classroom instruction, and in-depth study of the duties, problems, and techniques involved in coordination.

470-1 to 4 Workshop in Vocational Education
Intensive practical study in vocational education. May be taken for letter grade or pass/unsatisfactory.

471-8 Vocational Teaching: Preservice
The development of basic cognitive and performance skills required by new nondegree vocational teachers to earn a one-year teaching certificate. Prerequisite: Vocational education teacher.

472-2, 473-2, 474-2 Inservice Education I, II, III
Development of basic knowledge, skills, and attitudes required for vocational certification of new, noncertified vocational teachers. Prerequisite: for 472, VOE 471; for 473, VOE 472; for 474, VOE 473.
475-4 Vocational Technical Teaching: Two Week Follow-up
Refinement of curriculum development, motivation, leadership, and human relations skills required by employed one-year certified vocational teachers. Prerequisite: VOE 471, 472, 473, 474.

476-1, 477-1, 478-1 Inservice Education IV, V, VI
Development of basic knowledge, skills, and attitudes required for vocational certification of new noncertified vocational teachers. Prerequisite: for 476, VOE 471, 472, 473, 474, 475; for 477, VOE 476; for 478, VOE 477.

479-3 Clinical Project in Vocational Education
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.

481-3 Curriculum in Marketing Education
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 221, VOE 467.
Engineering Technology/TEG

131-3 Statistical Process Control
Emphasis on classical probability as it serves the practical tools of statistical process control and single, double, sequential, variable, and continuous sampling plans. Prerequisite: TMT 115, TEG 225.

141-2 Development of Engineering and Technology
Historical perspective of the development of engineering, science, and technology, including the interrelationship of technology and society.

144-3 Introduction to Engineering Graphics
Lectures, classroom discussion, and drawing board work are combined to help the student gain knowledge and acquire skills needed to produce orthographic projections, dimensioning, sectional views, and pattern developments. 1 hour lecture, 4 hours lab. Corequisite: TMT 113.

145-4 Engineering Drawing I
Lecture, classroom discussion, and drawing board work are combined to help the student gain knowledge and acquire skills needed to produce orthographic projections by the use of descriptive geometry methods. Course includes analysis of points, lines, and planes. 2 hours lecture, 4 hours lab. Prerequisite: TEG 144. Corequisite: TMT 114.

146-3 Engineering Drawing II
A course emphasizing the design process in the development of assembly drawings. Includes tolerancing, threads and fasteners, design and working drawings, assemblies, specifications, and materials lists. 1 hour lecture, 4 hours lab. Prerequisite: TEG 145. Corequisite: TMT 115.

147-3 Engineering Drawing III
Covers geometric dimensioning and tolerancing as it applies to assembly drawing, joints, fasteners, jigs and fixtures, belts, gears, chain, and powertrains. Machinists' handbook is used as an engineering tool to provide a strong technical background. 1 hour lecture, 4 hours lab. Prerequisite: TEG 146, 170.

148-3 Electronic Drafting/CAD
Drafting for students in electronics technology. Topics include preparation of electrical drawings including block and ladder diagrams, pictorial and schematic wiring diagrams, and printed circuit layouts. Stress use of electrical and electronic symbols and nomenclature. Computer drafting introduced. 1 hour lecture, 4 hours lab.

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. 2 hours lecture, 2 hours lab. Prerequisite: TEG 102 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. 2 hours lecture, 2 hours lab. Prerequisite: TEG 150 or permission of instructor.

152-3 Automated Manufacturing I
An introduction to the operation and programming of computer numerically controlled equipment. Students learn the process of writing and editing of CNC programs and the basic principles of CAD-CAM software operation. 2 hours lecture, 2 hours lab. Prerequisite: TEG 151, TMT 114, 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 tool paths, offsets, and other required information to produce the CNC codes and manufacture the parts. 2 hours lecture, 4 hours lab. Prerequisite: TEG 152, TMT 114, or permission of instructor.

160-4 DC Circuit Analysis
Introduces the basic concepts of electricity including current, voltage, power, and energy. Series, parallel, and combination circuits are covered along with applications using these circuits. Network analysis techniques are used to study complex circuits. 2 hours lecture, 4 hours lab. Corequisite: TMT 113.

161-4 AC Circuit Analysis
Introduction to inductive and capacitive reactance along with fundamental magnetic concepts. Series and parallel and combination passive circuits are covered along with applications using these components. The network analysis techniques introduced in TEG 160 are continued in this course and applied to these circuit elements. Filter theory along with the operation of motors and generators are presented. 2 hours lecture, 4 hours lab. Prerequisite: TEG 160, TMT 113. Corequisite: TMT 114.

170-5 CAD I
Takes students step-by-step in the learning of computer-aided design, from the beginning to the advanced level. Users learn to create, store, edit, and plot drawings. Principles of two-dimensional drawing are taught. Units covered include, but are not limited to, starting and saving drawings, creating layers, and using colors, text fonts, polylines, and object snap. 2 hours lecture, 6 hours lab. Prerequisite: TEG 144 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
An advanced mechanical drafting and design exercise into applied elements of machine design, requiring student comprehension of machine functions, ergonomics, design parameters, mechanisms, and materials and processes. Use of CAD system is necessary to develop such drafting exercises. Material selection, fasteners, belt, chain and gear drives, design of castings, weldments, jigs and fixtures, and drafting exercises. 2 hours lecture, 4 hours lab. Prerequisite: TEG 147.

205-4 Design Analysis with CAD/CAM
Design as an engineering process; engineering graphics (numerical methods) and digital computers (geometric modeling in threedimensional design space with the use of a MicroCAD lab or a mainframe) for problem solution. Application of the design analysis method to problems involving industrial design products. Includes exercises to integrate CAD and CAM facilities. 2 hours lecture, 4 hours lab. Prerequisite: TEG 270.

206-4 Technical Illustration
Focuses on development of reproducible pictorials—obliques, isometrics, axonometrics, perspectives, and autoshade drawings. Use of MicroCAD helps to make the transition from mechanical drawing to geometric modeling. 2 hours lecture, 4 hours lab. Prerequisite: TEG 205, TMT 115.

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.

210-4 Electronics I
An introduction of the basic concepts of semiconductor devices and their applications. Diode and bipolar transistors are discussed. Diode applications—half wave rectifier, full wave rectifier, bridge rectifier, and power supply are covered. Class A amplifier gain, input and output impedance, bias techniques, and transistor configurations are explained. 2 hours lecture, 4 hours lab. Prerequisite: TEG 161.

211-3 Computer Programming Technology
Begins with basic PC fundamentals and continues through the study of higher-level languages using BASIC for solution of engineering problems. Typical PC applications are presented. 2 hours lecture, 2 hours lab.

212-4 Materials Science
The fundamental chemistry and application of chemistry and physics to the commonly encountered engineering materials including ferrous and nonferrous metals, ceramics, polymers, and composites. 3 hours lecture, 2 hours lab. Prerequisite: PHY 101, 111.

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.

220-4 Electronics II
Continuation in the discussion of transistor amplifiers. AC load line, class B power amplifier, and transformer couplings are discussed. JFET, E-MOSFET, D-MOSFET transistors, their biasing techniques, and applications are introduced. 2 hours lecture, 4 hours lab. Prerequisite: TEG 210.

221-4 Automation and Robotics
Industrial robots: types, applications, and current developments. Automation in the industrial setting. Computer Integrated Manufacturing (CIM), vision systems, voice control, industrial sensors and their applications. Labs include robot programming, set-up and operation of flexible manufacturing cells. 2 hours lecture, 4 hours lab. Prerequisite: TEG 211 or TEG 233 or permission of instructor.

225-3 Work Measurement
An overview of the concepts of work measurement and its use in the industrial environment. The techniques behind time and motion study, work sampling, predetermined time systems, and standard data are studied. Emphasis is on understanding the application and ramifications of work measurement in manufacturing organizations. Explores the Continuous Improvement concept, or Just-in-Time (JIT) and how it is impacted by work measurement. Visits the related disciplines of production management, materials management, capacity analysis, and manufacturing flow and facilities. Prerequisite: TMG 201.

226-3 Metallurgy
Terminology and designations of materials used in manufacturing and the relation between the nature of materials and their properties. The altering of properties for design purposes and methods of comparing and testing materials for selection. 2 hours lecture, 2 hours lab. Prerequisite: TEG 212.

230-4 Electronics III
Introduction of differential and operational amplifiers and their various applications. Summing amplifier, integrator, comparator, active filter, and oscillators are discussed. 555 timers and solid state switching circuits such as Schmitt triggers and multivibrators are introduced. 2 hours lecture, 4 hours lab. Prerequisite: TEG 220.
232-4 Industrial Electronics
Motors, transformers, components used in electrical control circuits such as contacts, relays, timers, etc. Phase shift control, photoelectric control, time-delay circuits, static switching, and servomechanisms. 2 hours lecture, 4 hours lab. Prerequisite: TEG 220.

233-3 Process Control
Industrial processes: types, examples, and common problems. Sensors used in industrial processes. Fundamentals of industrial control. Programmable controllers: programming, hardware, operation, applications, installation, maintenance, and troubleshooting. 2 hours lecture, 2 hours lab. Prerequisite: TEG 232 or permission of instructor.

235-4 Industrial Systems
A study of the components that make up a typical industrial control system. Various sensor and control subsystems are evaluated both individually and in combination. Industrial applications of lasers and fiber optics are studied with regard to sensor and data communication usage. 2 hours lecture, 4 hours lab. Prerequisite: TEG 232.

240-4 Digital Logic
Boolean algebra, combination logic, and more complex digital circuits such as flip-flops, registers, counters, decoders, encoders, multiplexers, adder, and timers. 2 hours lecture, 4 hours lab. Prerequisite: TMT 113 or permission of instructor.

241-4 Microprocessors I
Covers 8086 assembly and machine language programming. The internal functionality of current microcomputers is presented along with basic system architecture and multiplexed display circuitry. 3 hours lecture, 2 hours lab. Prerequisite: TEG 240 or permission of instructor.

242-4 Microprocessors II
A continuation of TEG 241 expanding the study of TEG 241 to include small microcomputer subsystems such as keyboards, floppy and hard disc systems, dot matrix and laser printers, and video interfaces. Diagnostic techniques are presented and practiced. 3 hours lecture, 2 hours lab. Prerequisite: TEG 241.

243-4 Microprocessors III
A continuation of TEG 242 covering hardware, software, and repair of complete microcomputer applications. CAD, communications systems, control systems, and measurement applications are presented. 3 hours lecture, 2 hours lab. Prerequisite: TEG 242.

250-3 Electronic Communications
Methods of transmission of digital data are studied, particularly modems and LANs. Exposure to setup, installation, and troubleshooting is given. 2 hours lecture, 2 hours lab. Prerequisite: TEG 242.

270-5 CAD II
Provides students with CAD techniques on computer operating systems and software customization with the use of macros and menus. Covers adapting a CAD system to one's own needs. The principles of three-dimensional drawing are covered. Students will learn to use the User Coordinate System and other AutoCAD options to create and view pictorial views of objects. 2 hours lecture, 6 hours lab. Prerequisite: TEG 170.

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

280-3 Auditing
Introduction to principles, procedures, and standards involved in the conduct of an audit by an accountant. Prerequisite: 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
232-3 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

130-4  BASIC I

Programming elements of BASIC language; techniques for debugging and interpreting computer output; linkage to subroutines and overlays; file-structure involving sequential access; and case studies with business applications. 3 hours lecture, 2 hours lab. Prerequisite: CS 205.

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. 2 hours lecture, 2 hours lab. Prerequisite: CS 205 or permission of instructor.

211-3 Advanced Spreadsheet Applications

Use of the electronic spreadsheet that incorporates use of macro's, database functions, logical functions and operations, and /X Commands. 2 hours lecture, 2 hours lab. Prerequisite: TDP 210.

221-3 Systems Analysis I

Introduction to fundamental concepts of systems development and design. Topics include basic system concepts, planning, elements of systems, performing systems study, and alternatives in systems design. 2 hours lecture, 2 hours lab. Prerequisite: CS 141; TDP 130 or TEG 211.

222-3 Systems Analysis II

Students design and implement an information system from a managerial perspective. Includes analysis of present information flow, systems specifications, equipment selection, and system effectiveness. 2 hours lecture, 2 hours lab. Prerequisite: TDP 221.

230-4 Introduction to Operating Systems

Introduction to the concepts of computer operating systems and resource allocation. Topics include executive options, layered products, multiprocessor and multiprocessing options, utility functions, and memory management. Laboratory assignments consist of generating and tailoring a usable operating system with layered products. 2 hours lecture, 4 hours lab. Prerequisite: CS 141; TDP 130 or TEG 211.

285-4  Technical Data Processing

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.

231-3 Real Estate Principles and Practices

Orientation to the broad field of real estate. Principles, practices, and issues of real estate. The real estate market, types of real property interest, contracts, deeds, financing, home ownership, leases, investment, management, purchasing, selling, role of real estate agent, search, examination, registration of title, title closing, the valuation process, city planning, zoning, public housing, urban renewal, and state regulation. Major issues and trends involving economic, political, and social implications in the field of real estate.

232-3 Real Estate Law

Areas of law commonly concerned with the 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. Prerequisite: TFI 231.

233-3 Real Estate Finance

Major instruments used in financing real estate. Mortgage types, terms, and provisions. Default and foreclosure. Land contracts, leases, sales, and lease-back arrangements. The mortgage market, determinants of supply and demand, and the effect of interest rate changes. Financial institutions and government operations. Alternative methods for financing income properties. Successful completion of this course meets part of the licensing requirement for a real estate broker in Ohio. Prerequisite: TFI 231.

234-3 Real Estate Valuation and Appraisal

Purpose of appraisal and the concept of value. Factors influencing value. Determination of economic value through capitalization of future cash flows. Methodology for determining the capitalization rate and use of compound interest tables. Market conditions. Replacement cost, depreciation, and the land value. Successful completion of this course meets part of the licensing requirement for real estate broker in Ohio. Prerequisite: TFI 231.
### Technical Management/TMG

#### 201-3 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.

#### 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.

#### 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 TMG 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, TMG 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, students, and business representatives. Completion of 60 hours of course work required.

### Technical Mathematics/TMT

#### 113-5 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.

110-1 Keyboarding
Basic keyboarding instruction in touch typewriting on an alphanumeric keyboard. May be taken for letter grade or pass/unsatisfactory.

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.

223-3 Word Processing Simulations
Simulations in word processing functions using merge, list processing, math, and sort. Covers medical, legal, and executive situations. 6 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. 2 hours lecture, 2 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. 2 hours lecture, 2 hours lab. Prerequisite: TOA 233.

235-3 Calculator Applications
Operation of electronic display and printing calculators with business math and office applications. 2 hours lecture, 2 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. 2 hours lecture, 2 hours lab. Prerequisite: OA 211 or TOA 110.

242-3 Advanced Desktop Publishing
Continuation of TOA 241 using more advanced features and applications of graphics and software programs. 2 hours lecture, 2 hours lab. Prerequisite: TOA 241.

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.

255-3 Medical Coding
Includes ICD-9-CM medical coding guidelines that apply in processing insurance and medical claims, including Medicaid and other health plans.

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.

061-1 Vocabulary Development I
Allows students to proceed at their own pace. Provides students with one-on-one instruction. Students work toward improved vocabulary, concentrating on techniques of unlocking meaning through contextual clues and knowledge of Latin and Greek roots, prefixes, and suffixes. Students formulate data retention cards to master specific or general vocabulary of a discipline/course. Graded pass/unsatisfactory.

062-1 Vocabulary Development II
Continuation of TSS 061. Graded pass/unsatisfactory.

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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Faculty


Adams, Robert W. Associate Professor of Political Science; Associate Director, Center for Urban and Public Affairs A.B., 1955, Utica College; M.A., 1961, Syracuse University; Ph.D., 1969, The Ohio State University

Ahmad, Khurshid Associate Professor of Insurance B.A., 1953, University of Karachi (Pakistan); M.A., 1955, Punjab University (Pakistan); Ph.D., 1970, University of Pennsylvania

Ainina, M. Fall Associate Professor of Finance H.E.C., 1977, Universite de Tunis; M.B.A., 1980, Ball State University; Ph.D., 1986, Arizona State University


Allen, Charilla Assistant Professor of Social Work B.S., 1978, Central State University; M.S.W., 1986, University of Cincinnati

Alter, Gerald M. Associate Professor of Biochemistry and Molecular Biology B.A., 1968, Albion College; Ph.D., 1975, Washington State University

Alter, Joseph D. Professor of Community Medicine and Department Chair M.D., 1950, Hahnemann Medical College and Hospital; M.P.H., 1961, University of California at Berkeley

Amon, James P. Associate Professor of Biological Sciences B.S., 1965, University of Cincinnati; M.A., 1968, Ph.D., 1974, College of William and Mary


Anos, Oris E. Professor Emeritus of Education A.B., 1951, Virginia State College; M.A., 1963, Ph.D., 1971, The Ohio State University

Anon, Norman Professor Emeritus of Economics A.B., 1948, M.S., 1951, Ph.D., 1954, University of Wisconsin

Arasu, K. T. Professor of Mathematics and Statistics B.S., 1976, M.Sc., 1977, Panjab University (India); Ph.D., 1983, The Ohio State University

Arbati, Martin Associate Professor of History A.B., 1961, Georgetown University; M.A., 1967, Ph.D., 1969, Rutgers University at New Brunswick

Arlian, Larry G. Professor of Biological Sciences; Brage Golding Distinguished Professor of Research; Director, Ph.D. Program in Biomedical Sciences B.S., 1966, M.S., 1968, Colorado State University; Ph.D., 1972, The Ohio State University

Astaghiri, Chandra Assistant Professor of Computer Science and Engineering M.S., 1986, Ph.D., 1991, Kent State University

Awwal, Abdul A. S. Assistant Professor of Computer Science and Engineering B.S.E.E., 1984, Bangladesh University of Engineering and Technology; M.S.E.E., 1986, The Wichita State University; Ph.D., 1989, University of Dayton

Backs, Richard W. Assistant Professor of Psychology B.A., 1978, University of Missouri; M.A., 1981, Ph.D., 1984, University of Southern California


Baird, Scott E. Assistant Professor of Biological Sciences B.S., 1979, University of Toledo; Ph.D., 1988, University of Connecticut Health Center


Ballantine, Jeannie Professor of Sociology B.S., 1963, The Ohio State University; M.A., 1966, Columbia University; Ph.D., 1971, Indiana University

Bambakiidzis, Gust Professor of Physics and Department Chair B.S., 1958, University of Akron; M.S., 1963, Ph.D., 1966, Case Western Reserve University

Barbour, Clyde D. Associate Professor of Biological Sciences A.B., 1958, Stanford University; Ph.D., 1966, Tulane University of Louisiana

Barlow, Gary C. Professor Emeritus of Art Therapy and Art Education; University Professor; Coordinator, Art Therapy B.S., 1957, Ed.D., 1958, Miami University; Ed.D., 1967, Pennsylvania State University

Barnes, H. Verdain Professor of Medicine and Pediatrics; Chair, Department of Medicine M.D., B.A., 1958, McMurry College; B.D., 1961, Yale University; M.D., 1965, Vanderbilt University School of Medicine

Barnhart, Michael L. Assistant Professor of Education B.A., 1963, Ohio University; M.Ed., 1969, Wright State University; Ph.D., 1981, Miami University

Barr, David L. Professor of Religion; Director, University Honors Program B.A., 1965, Fort Wayne Bible College; M.A., 1969, Ph.D., 1974, Florida State University

Basinger, Tommie S. Lecturer of Education B.S., 1982, University of Toledo; M.S., 1984, The University of Dayton

Batata, Al Professor of Pathology and Department Chair; Course Director, Pathology; Director, Lymphoma Lab M.B., B.Ch., 1950, D.M., 1960, D.M.Sc., 1950, D.M.Sc., 1962, Cairo University School of Medicine; L.M.S.S.A., London, England

Batra, Prem P. Professor of Biochemistry and Molecular Biology B.S., 1955, M.S., 1958, Punjab University (India); Ph.D., 1961, University of Arizona


Beckick, Donald J. Assistant Professor of Philosophy B.A., 1963, Western Michigan University; M.A., 1967, Ph.D., 1972, The Ohio State University

Bell, Nancy W. Instructor of Mathematics and Statistics B.S., 1964, Ohio University; M.S., 1981, Wright State University

Bellisario, Anna Associate Professor of Anthropology; Director, University Honors Program B.A., 1962, Wittenberg University; M.A., 1976, Ph.D., 1984, The Ohio State University

Benner, Carl V. Professor Emeritus of Mathematics Education and Mathematics; Frederick A. White Distinguished Professor of Service B.S., 1957, Rio Grande College; M.A., 1960, University of Northern Iowa; M.S., 1964, Purdue University; Ed.S., 1965, Bowling Green State University; Ph.D., 1970, The Ohio State University

Bennett, Kevin B. Associate Professor of Psychology A.B., 1979, Ohio University; M.A., 1982, Ph.D., 1984, The Catholic University of America

Berberich, Steven Assistant Professor of Biochemistry and Molecular Biology B.S., 1985, Ph.D., 1990, Wright State University

Bernhardt, Gregory R. Professor of Education; Associate Dean, College of Education and Human Services B.A., 1971, Colorado State University; M.S., 1973, Kansas State Teachers College; Ed.D., 1979, University of Northern Colorado

Bertsch, Deborah Instructor of English B.A., 1990, Northern Kentucky University; M.A., 1993, Miami University

Bethke, Richard J. Associate Professor of Electrical Engineering; Chair, Department of Mechanical and Materials Engineering B.S.M.E., 1965, Ph.D., 1971, University of Wisconsin

Bigley, Nancy J. Professor of Microbiology and Immunology B.S., 1953, Pennsylvania State University; M.S., 1955, Ph.D., 1957, The Ohio State University


Blair, D. Bartlett Professor of Theatre Arts B.A., 1973, State University of New York College at Potsdam; M.F.A., 1976, University of Minnesota

Blair, John P. Professor of Economics B.S., 1969, M.A., 1970, Eastern Illinois University; Ph.D., 1974, West Virginia University

Blake, Charles H. Associate Professor Emeritus of Economics B.S., 1949, Linfield College; M.S., 1953, Ph.D., 1966, University of Wisconsin

Bland, Leland D. Professor of Music; Coordinator, Music Theory and Literature B.S., 1962, M.A., 1963, Northeast Missouri State University; Ph.D., 1973, University of Iowa


Bogan, Barbara Assistant Professor of Nursing B.S.N., 1962, M.S., 1965, The Ohio State University

Bognar, Bela J. Associate Professor of Social Work and Community Health B.S., 1962, Ecole Sociale de Louvain (Belgium); M.S.W., 1966, University of Wisconsin at Milwaukee; Ph.D., 1974, University of Wisconsin at Madison

Bombeck, Daniel D. Associate Professor of Chemistry B.S., 1979, M.S., 1981, Wright State University; Ph.D., 1986, Michigan State University

Brucker, Peter S. Professor of English B.A., 1954, Wittenberg University; M.A., 1956, University of Washington; Ph.D., 1960, University of Pennsylvania

Brandeberry, James E. Professor of Computer Science, Electrical Engineering, and Computer Engineering; Dean, College of Engineering and Computer Science B.S.E.E., 1961, M.S.E.E., 1963, University of Toledo; Ph.D., 1969, Marquette University

Brecha, Sonia A. Assistant Professor of Accountancy and Department Chair B.S., 1956, Ohio University; M.S., 1974, D.B.A., 1983, Kent State University; CPA

Brown, Herbert E. Professor of Marketing B.S., 1961, M.S., 1962, Southern Illinois University; Ph.D., 1969, The Ohio State University

Brown, William E. Professor of Education B.S., 1962, M.A., 1964, Ball State University; Ph.D., 1969, Indiana University

Brun, Carl Assistant Professor of Social Work B.S., 1981, University of Dayton; A.M., 1983, University of Chicago; Ph.D., 1993, The Ohio State University

Budding, S. Jean Instructor of Nursing B.S.N., 1975, The Ohio State University; M.S., 1991, Wright State University

Buell, Glen R. Associate Professor Emeritus of Chemistry, WSU–Lake Campus B.S., 1953, M.S., 1955, University of Missouri; Ph.D., 1961, University of Kansas

Bullock, John D. Professor of Ophthalmology and Surgery; Chair, Department of Ophthalmology A.B., 1965, Dartmouth College; B.M.Sc., 1966, Dartmouth Medical School; M.D., 1968, Harvard Medical School; M.S., 1982, Wright State University

Bullock, Richard H. Associate Professor of English and Director of Writing Programs A.B., 1973, Ohio University; M.A., 1977, Ph.D., 1981, The University of Virginia

Burgess, Joy Instructor of Nursing B.S.N., 1974, Hunter College; M.S.N., 1983, University of Texas at San Antonio

Burns, Andrea Director, Chemical Laboratories B.S., 1968, M.S., 1970, Wright State University

Burns, Dawn P. Assistant Professor of Microbiology and Immunology B.S., 1986, Pennsylvania State University; Ph.D., 1992, Harvard Medical School
Burton, G. Allen Associate Professor of Environmental Health Sciences; Director, Environmental Health Sciences Program B.S., 1976, Ouachita Baptist University; M.S., 1978, Auburn University; M.S., 1980, Ph.D., 1984, University of Texas at Dallas
Bushong, Joe Gregory Assistant Professor of Accountancy B.S., 1976, M.B.A., 1981, East Tennessee State University; Ph.D., 1989, Louisiana State University
Byrum-Robinson, Beverly A. Professor of Communication B.A., 1964, M.A., 1967, Miami University; Ph.D., 1974, The Ohio State University
Cacioppo, Anthony J. Associate Professor of Biomedical and Human Factors Engineering and Department Chair B.S., 1948, M.A., 1949, Kent State University; Ph.D., 1954, University of Iowa; Postgraduate, 1952, Università di Roma (Italy)
Call, Edward P. Voluntary Associate Professor of Anatomy; Associate Clinical Professor of Surgery B.A., 1955, Dartmouth College; M.D., 1959, Yale University School of Medicine
Callender, A. Keith Associate Professor of Anesthesiology and Department Chair B.A., 1968, Walla Walla College; M.D., 1972, Loma Linda University
Campbell, Brent A. Assistant Professor of Engineering Technology, WSU-Lake Campus B.S., 1985, M.A., 1989, Central State University
Campbell, Patrick E. Associate Professor of Psychology B.S., 1960, M.S., 1966, Kansas State College; Ph.D., 1968, University of Kansas
Cannon, Yun T. Assistant Professor Emeritus of Electrical Engineering, WSU-Lake Campus B.S., 1972, The Ohio State University
Canteloupe, Eugene B. Professor Emeritus of English and Art History B.A., 1942, State University of New York at Buffalo; M.F.A., 1950, University of Iowa; Ph.D., 1959, Washington University
Carlson, Donald A. Associate Professor of History, WSU-Lake Campus B.A., 1958, M.A., 1960, Ph.D., 1964, University of Minnesota
Carmack, Wayne Professor of Biological Sciences B.S., 1969, Oregon State University; M.S., 1972, Ph.D., 1974, University of Alberta (Canada)
Carmine, Frank J., Jr. David L. Rike Professor of Marketing B.S., 1962, University of Pennsylvania; M.B.A., 1964, University of Pennsylvania; Ph.D., 1971, University of Waterloo, Waterloo, Ontario, Canada
Carney, Cindy K. Associate Professor of Geological Sciences B.S., 1980, Youngstown State University; Ph.D., 1987, West Virginia University
Caron, Linda Associate Professor of Art History; Chair, Department of Art and Art History B.A., 1976, Smith College; Ph.D., 1981, Bryn Mawr College
Carrasiello, Susan B. Assistant Professor of History B.A., 1982, Mississippi State University; M.A., 1984, Ph.D., 1992, Vanderbilt University
Carusone, Peter S. Professor of Marketing B.F.A., 1962, University of Cincinnati; M.B.A., 1965, Xavier University; Ph.D., 1969, The Ohio State University
Cary, Norman R. Professor of English B.A., 1958, Asbury College; M.A., 1960, University of Arkansas; Ph.D., 1968, Wayne State University
Cassel, Adrienne Instructor of English B.S., 1986, Central State University; M.A., 1991, Wright State University
Castellano, Joseph F. Professor of Accountancy B.S., 1964, M.S., 1965, Ph.D., 1971, Saint Louis University
Cavanaugh, Joseph K. Assistant Professor of Economics, WSU-Lake Campus B.S., 1989, M.A., 1990, Miami University (Oxford); Ph.D., 1994, University of Kentucky
Chan, Yun T. Assistant Professor of Engineering Technology, WSU-Lake Campus B.E., 1968, M.S., 1969, New York University; M.S., 1988, Creighton University
Chance, Larry L. Associate Professor of Education; Acting Chair, Department of Teacher Education B.S., 1966, M.A., 1967, Ball State University; Ph.D., 1973, University of Kansas
Chandler, Mark S. Assistant Professor of Microbiology and Immunology B.S., 1976, M.S., 1979, University of Washington; Ph.D., 1988, University of Illinois at Chicago
Chen, Chien-In H. Assistant Professor of Electrical Engineering B.S., 1981, National Taiwan University; M.S., 1986, University of Iowa; Ph.D., 1989, University of Minnesota
Chen, Jer-Sen Assistant Professor of Computer Science and Engineering B.S., 1981, M.S., 1985, National Taiwan University (Taiwan); Ph.D., 1989, University of Southern California
Chen, C. L. Philip Assistant Professor of Computer Science and Engineering B.S., 1979, National Taipei Institute of Technology (Taiwan); M.S., 1985, The University of Michigan at Ann Arbor; Ph.D., 1988, Purdue University
Cheng, Songlin Assistant Professor of Geological Sciences B.S., 1972, National Cheng Kung University (Taiwan); M.S., 1979, Wright State University; Ph.D., 1984, University of Arizona
Chesire, Jimmy Instructor of English A.B., 1968, Cornell University; M.S., 1973, University of Nebraska; M.A., 1994, Wright State University
Chung, Soon M. Assistant Professor of Computer Science and Engineering B.S., 1979, Seoul National University (South Korea); M.S., 1981, Korea Advanced Institute of Science and Technology; Ph.D., 1989, Syracuse University
Cico, Carol Assistant Professor of Mathematics, WSU–Lake Campus B.S., 1964, M.S., 1966, The Ohio State University

Citra, Maryalice Assistant Professor of Psychology B.A., 1981, New College; M.S., 1984, Indiana University; Ph.D., 1989, Purdue University

Clark, Cheryl Assistant Professor of Nursing B.S.N., 1976, University of Evansville; M.S.N., 1981, California State University

Clark, Jerry D. Associate Professor of Physics B.S., 1976, University of Texas at Arlington; Ph.D., 1982, University of Texas at Dallas

Clark, Robert L. Associate Professor Emeritus of Education B.S., 1949, Murray State College; M.A., 1954, University of Kentucky; Ph.D., 1965, Southern Illinois University

Cleary, Michael J. Professor of Management Science B.S., 1961, Norwich University; M.A., 1969, Ph.D., 1971, University of Nebraska

Cohen, Jeffery H. Associate Professor of Anthropology B.A., 1984, Indiana University; M.A., 1987, University of New Mexico; Ph.D., 1994, Indiana University

Cole, Donna Associate Professor of Education: Coordinator, Phase I Teacher Education B.A., 1971, Cleveland State University; M.A., 1975, West Virginia University; Ph.D., 1980, University of Utah

Coleman, Joseph W. Associate Professor of Management Science B.S., 1967, Pennsylvania State University; M.B.A., 1975, Golden Gate University; Ph.D., 1982, Arizona State University

Colle, Herbert A. Associate Professor of Psychology and Department Chair B.S., 1965, University of Wisconsin; Ph.D., 1969, University of Washington

Constable, Gordon K. Associate Professor of Management Science B.S., 1966, M.S., 1968, Ph.D., 1972, Purdue University

Cook, Lois A. Assistant Professor Emerita of Chemistry B.A., 1945, College of Wooster; M.S., 1948, The Ohio State University; Ph.D., 1980, The Union Graduate School

Corbett, Adrian M. Assistant Professor of Physiology and Biophysics B.S., 1978, Texas A&M University at Galveston; Ph.D., 1984, University of Miami

Cornelius, Kenneth C. Associate Professor of Mechanical Engineering B.S., 1968, M.S., 1971, Ph.D., 1978, Michigan State University

Correale, Robert M. Professor of English A.B., 1955, Saint Bonaventure University; M.A., 1960, Siena College; Ph.D., 1971, University of Cincinnati

Coughlan, Elizabeth P. Assistant Professor of Political Science A.B., 1985, Tufts University; Ph.D., 1993, Indiana University

Courtney, Donna S. Associate Professor of Education; Director, Southwestern Ohio Vocational Education Personnel Development Center; Coordinator, Business Education and Vocational Education B.S., 1965, Miami University; M.Ed., 1975, Ed.D., 1987, University of Cincinnati

Cox, Myron K. Professor of Management Science and Department Chair B.S., 1949, Virginia Polytechnic Institute and State University; B.S., 1952, Pennsylvania State University; M.S., 1957, Massachusetts Institute of Technology; E.E., 1963, North Carolina State University; D.Sc., 1964, London College (England)

Craighead, Robert L. Assistant Professor of Mathematics and Statistics B.S., 1964, Tennessee A&I State University; M.S., 1970, University of Wyoming; Ph.D., 1991, The Ohio State University

Crampton, George H. Professor Emeritus of Psychology B.S., 1949, Washington State University; M.S., 1950, Ph.D., 1954, University of Rochester

Crews, Sandra Assistant Professor of Theatre Arts B.A., 1978, University of Maryland; M.F.A., 1982, University of California at Davis

Cromer, Bruce Assistant Professor of Theatre Arts B.F.A., 1981, Wright State University

Cross, Lawrence J. Professor Emeritus of Sociology A.B., 1943, M.A., 1951, Loyola University; Ph.D., 1962, University of Pennsylvania

Cummins, Sue C. Professor Emerita of Chemistry B.A., 1963, Northwestern University; M.S., 1965, Ph.D., 1968, The Ohio State University

Curry, Donna Miles Assistant Professor of Nursing B.S.N., 1976, M.S.N., 1979, St. Louis University; Ph.D., 1990, The Ohio State University

Curry-Jackson, Anita E. Associate Professor of Social Work and Department Chair B.A., 1968, Le Moyne-Owen College; M.S.S.A., 1970, Case Western Reserve University; Ph.D., 1987, Atlanta University

Custenborder, Catherine Associate Professor Emerita of Education, WSU–Lake Campus B.M.Ed., 1951, College of Mount Saint Joseph-on-the-Ohio; M.Ed., 1965, Ph.D., 1968, Ohio University

Dadras, Parviz Professor of Mechanical Engineering and Materials Science and Engineering B.S., 1964, Abadan Institute of Technology (Iran); M.S., 1968, Ph.D., 1972, University of Delaware

Dahlan, Hank Assistant Professor of Music; Director of Choral Activities B.Mus., 1979, Longwood College; M.M., 1987, University of South Florida; D.M.A., 1991, University of Missouri–Kansas City

DalVera, Rocco Assistant Professor of Theatre Arts B.F.A., 1977, United States International University; M.F.A., 1994, National Theatre Conservatory

Daniel, Johns Instructor of Computer Science and Engineering B.Eng., 1986, University of Zambia; M.S., 1989, Wright State University

d'Auriol, Brian Assistant Professor of Computer Science and Engineering B.S., 1988, M.S., 1990, Ph.D., 1994, University of New Brunswick (Canada)

David, Donald K., II Assistant Professor of Theatre Arts; Production Manager, Theatre Arts B.A., 1977, Saint Lawrence University; M.F.A., 1979, University of Utah
Davidson, Dan  Instructor of Computer Science and Engineering  M.B.A., 1975, University of Dayton
Davis, Harry N.  Associate Professor of Psychology  B.A., 1968, Eckerd College; M.S., 1971, Ph.D., 1974, University of Florida
Davis, Henry W.  Professor Emeritus of Computer Science and Engineering  B.A., 1959, Rice University; M.A., 1961, University of Colorado; M.S., 1974, State University of New York at Stony Brook; Ph.D., 1965, University of Colorado
Davy, Jeannette  Associate Professor of Management Science  B.S., 1976, Viterbo College; Ph.D., 1986, University of Arizona, SPHR
Dean, Jay B.  Assistant Professor of Physiology and Biophysics  B.S., 1978, Central Michigan University; M.S., 1981, Michigan Technological University; Ph.D., 1986, The Ohio State University
Deane, Donna M.  Professor of Nursing  B.S.N., 1961, M.S.N., 1973, Ph.D., 1978, The Ohio State University
Demmy, W. Steven  Professor of Management Science  B.S., 1966, M.S., 1967, Ph.D., 1971, The Ohio State University
Denison, Barbara B.  Assistant Professor of Management Information Systems  B.S., 1968, Denison University; M.B.A., 1974, University of Dayton; M.S., 1993, Wright State University
Derry, Charles  Professor of Theatre Arts  B.S., 1973, Northwestern University; M.A., 1975, University of Southern California; Ph.D., 1978, Northwestern University
DeStephen, Dan  Associate Professor of Communication  Director, Center for Labor-Management Cooperation  B.S., 1972, M.A., 1973, Bowling Green State University; Ph.D., 1977, University of Utah
Dittmar, Doris E.  Associate Professor Emerita of Education  Coordinator of Early Childhood Education  B.S., 1954, Oklahoma Baptist University; M.Ed., 1965, Wichita State University; Ed.D., 1969, Northern Illinois University
Dobson, Frank  Assistant Professor of English  B.A., 1973, State University of New York at Buffalo; M.A., 1975, University of Nevada; Ph.D., 1985, Bowling Green University
Dolan, Drew A.  Assistant Professor of Urban Affairs  B.S., 1982, Rockford College; M.P.A., 1985, Ph.D., 1988, Northern Illinois University
Doll, Valerie J.  Lecturer of Education  B.S., 1958, Simmons College; M.Ed., 1979, Wright State University
Dolson, David A.  Associate Professor of Chemistry  B.S., 1976, Eastern Illinois University; Ph.D., 1981, Indiana University
Dombrowski, Joanne  Professor of Mathematics and Statistics  B.S., 1968, Marygrove College; M.S., 1970, Ph.D., 1973, Purdue University
Dominic, David F.  Assistant Professor of Geological Sciences  B.S., 1980, University of Dayton; M.A., 1983, State University of New York at Binghamton; Ph.D., 1988, West Virginia University
Doorley, Jane E.  Instructor of Nursing  B.S.N., 1976, University of Northern Colorado; M.S., 1987, Wright State University
Dorn, Jacob H.  Professor of History  B.A., 1960, Wheaton College; M.A., 1962, Ph.D., 1965, University of Oregon
Douglas, Ana Maria P.  Lecturer of French and Spanish  B.S., 1979, Wright State University; M.A., 1985, Bowling Green State University
Dovel, Thomas D.  Associate Professor of Marketing and Department Chair  B.S., 1959, M.B.A., 1961, Miami University
Dung, Tran  Associate Professor of Economics  B.S., 1967, University of Utah; M.A., 1975, Ph.D., 1978, Syracuse University
Durr, Marlese  Assistant Professor of Sociology  B.S., 1978, M.A., 1979, M.A., 1985, Ph.D., 1993, State University of New York-Albany
Dustin, Jack  Assistant Professor of Urban Affairs and Department Chair  B.A., 1971, M.A., 1980, University of Akron; Ph.D., 1989, University of Delaware
Eakins-Reed, Barbara W.  Associate Professor of Communication  B.A., 1953, Allegheny College; M.A., 1968, Bowling Green State University; Ph.D., 1972, University of Iowa
Earl, Robert D.  Professor Emeritus of Education  B.S., 1954, Bluffton College; M.A., 1958, Miami University; Ed.D., 1967, Oklahoma State University
Edwards, Jean M.  Associate Professor of Psychology  B.A., 1972, University of Toronto (Canada); M.A., 1973, Ph.D., 1985, York University (Canada)
Endres, Carole R.  Lecturer of Economics  B.S., 1972, Kent State University; M.B.A., 1987, M.S., 1987, Wright State University
Engebretson, Darold  Associate Professor of Professional Psychology  Adjunct Associate Professor of Education; Psychologist and Director, Psychological Services Center  B.D., 1963, Luther Theological Seminary; B.A., 1966, M.Ed., 1967, Ph.D., 1969, University of Hawaii
Engle, Philip R.  Associate Professor of Social Work  B.A., 1965, The Ohio State University; M.S.W., 1969, University of Washington; D.S.W., 1975, University of Utah
Evans, Anthony B.  Associate Professor of Mathematics  B.S., 1970, Imperial College of Science and Technology (England); M.S., 1972, Reading University (England); Ph.D., 1981, Washington State University
Evans, Dan L.  Associate Professor of Education  WSU-Lake Campus, Dean, WSU-Lake Campus  B.S.Ed., 1973, Ohio University; M.A.Ed., 1978, Morehead State University; Ph.D., 1990, Ohio University
Evans, William D.  Assistant Professor Emeritus of Business  B.S.Ed., 1956, Youngstown State University; M.Ed., 1964, Miami University
FACULTY AND OFFICERS


Faghi, Amir Professor of Mechanical Engineering B.S.M.E., 1973, Oregon State University; M.S.M.E., 1974, Ph.D., 1976, University of California at Berkeley

Farlow, Gary C. Associate Professor of Physics B.S., 1977, Guilford College; Ph.D., 1982, University of North Carolina at Chapel Hill

Farr, Ann M. Assistant Professor of Mathematics and Statistics B.A., 1980, University of Dayton; M.A., 1985, Ph.D., 1989, The Ohio State University

Feld, William A. Professor of Chemistry B.S., 1966, Loras College; Ph.D., 1971, University of Iowa

Fenic, Elsie Assistant Professor of Finance B.S., 1959, City College of New York; M.B.A., 1983, Wright State University

Fernando, Joseph Instructor of Computer Science and Engineering B.S., 1983, University of Moratuwa (Sri Lanka); M.S., 1989, Wright State University

Fetz, Ronald Associate Professor Emeritus of Communication B.A., 1966, Heidelberg College; M.A., 1972, Kent State University; Ph.D., 1978, The Ohio State University

Fichtenbaum, Rudy H. Professor of Economics B.S., 1976, University of Missouri at Saint Louis; Ph.D., 1980, University of Missouri at Columbia

Finegan-Stoll, Colleen Assistant Professor of Education B.A., 1972, Fairmont State College; M.A., 1977, West Virginia University; Ed.D., 1985, University of South Florida; Ph.D., 1990, University of South Florida

Fink, Pamela S. Assistant Professor of Microbiology and Immunology B.A., 1976, State University of New York at Buffalo; Ph.D., 1982, Cornell University

Finkelstein, Leo Lecturer and Director of Technical Communications, College of Engineering and Computer Science B.A., 1968, University of North Carolina; M.A., 1969, University of Tennessee; Ph.D., 1978, Rensselaer Polytechnic Institute

Fitch, Diane E. Associate Professor of Art and Art History B.F.A., 1979, Portland School of Art; M.F.A., 1981, Indiana University

Fitzgerald, Edward A. Associate Professor of Political Science B.A., 1971, Holy Cross College; M.A., 1976, Northeastern University; J.D., 1974, Boston College; Ph.D., 1983, Boston University

Flach, John M. Associate Professor of Psychology B.A., 1975, St. Joseph's College; M.A., 1978, University of Dayton; Ph.D., 1984, The Ohio State University

Flack, Harley E. Professor of Education and Human Services, President B.S. 1965, The Ohio State University; M.A., 1968, Kent State University; Ph.D., 1971, State University of New York at Buffalo


Fortman, John J. Professor of Chemistry B.S., 1961, University of Dayton; Ph.D., 1965, University of Notre Dame

Fortson, Stephen B. Assistant Professor of Counseling Education B.A., 1983, University of North Carolina; M.R.C., 1988, Wright State University; Ed.D., 1994, University of Cincinnati

Fowler, Barbara A. Associate Professor of Nursing B.S.N., 1981, M.S.N., 1983, Ed.D., 1988, University of Cincinnati

Fox, Ronald E. Professor of Professional Psychology; Dean, School of Professional Psychology A.B., 1958, M.A., 1960, Ph.D., 1962, University of North Carolina

Foy, Brent D. Assistant Professor of Physics B.S., 1985; Ph.D., 1991, Massachusetts Institute of Technology

Frederick, Stephen Associate Professor of Health, Physical Education, and Recreation and Department Chair B.S., 1967 Wilmington College; M.Ed., 1969, Ball State University; P.E.D., 1977, Indiana University


Friar, Billy W. Assistant Professor Emeritus of Mechanical Engineering A.B., 1953, Berea College; B.S., 1958, Virginia Polytechnic Institute and State University; M.S., 1959, Ph.D., 1970, The Ohio State University

Fricke, Gerd H. Professor of Mathematics M.A., 1969, University of Kansas; Ph.D., 1971, Kent State University

Friedland, Eric L. Professor of Religion; Sanders Scholar B.A., 1960, Boston University; M.A., 1962, Ph.D., 1967, Brandeis University

Fritz, H. Ira Associate Professor Emeritus of Biochemistry and Molecular Biology B.S., 1958, Ph.D., 1964, University of California at Davis

Fulk, H. Roger Assistant Professor of Office Information Systems, WSU–Lake Campus B.S., 1978, Ohio University; M.S., 1981, Bowling Green State University

Funderburk, Samuel C. Professor of Political Science and Department Chair B.A., 1965, M.A., 1967, University of Florida; Ph.D., 1973, University of Iowa

Funkhouser, James W. Voluntary Professor of Microbiology and Immunology; Clinical Professor of Pathology B.M.T., 1951, University of Dayton; M.S., 1953, M.D., 1957, The Ohio State University

Fyffe, Robert E. W. Associate Professor of Anatomy B.S., 1975, University of Glasgow, Scotland; M.S., 1976, Ph.D., 1981, University of Edinburgh, Scotland
Gabbert, Janice J. Associate Professor of Classics and Department Chair B.A., 1970, Wright State University; M.A., 1972, Ph.D., 1982, University of Cincinnati

Gallimore, Jennie J. Associate Professor of Biomedical and Human Factors Engineering B.A., 1983, M.A., 1985, California State University at Northridge; Ph.D., 1989, Virginia Polytechnic Institute and State University

Garber, Fred D. Associate Professor of Electrical Engineering B.S., 1975, Tri-State University; M.S., 1978, Ph.D., 1983, University of Illinois

Garcia, Oscar Professor of Computer Science and Engineering and Department Chair; AT&T Global Information Solutions Distinguished Professor B.S.E.E., 1961, M.S.E.E., 1964, North Carolina State University; Ph.D., 1969, University of Maryland

Garner, Nancy G. Assistant Professor of History B.A., 1980, William Jewell College; M.L.S., 1981, University of Maryland, College Park; M.Phil., 1990, Ph.D., 1994, University of Kansas


Gayle, William Associate Professor of Education B.S., 1974, Virginia Polytechnic Institute and State University; M.S., 1977, University of Wisconsin at La Crosse; Ph.D., 1988, The Ohio State University

Gebert, Ronald Professor of Art and Art History B.F.A., 1974, Creighton University; M.F.A., 1979, University of Nebraska

Gies, Frederick J. Professor of Education; Dean, College of Education and Human Services B.A., 1960, DePaul University; M.Ed., 1964, Ed.D., 1970, University of Missouri at Columbia

Gilkey, Robert H. Assistant Professor of Psychology B.A., 1976, University of California at Berkeley; Ph.D., 1981, Indiana University

Gill, Humphrey G. Assistant Professor of Psychology, WSU-Lake Campus; B.A., 1966, University of South Florida; M.S., 1969, New Mexico Highlands University; Ed.D., 1975, University of Northern Colorado

Gillen, John C. Professor of Family Practice and Department Chair B.A., 1952, Ohio University; M.D., 1956, Vanderbilt University

Giron, David J. Professor of Microbiology and Immunology B.A., 1958, Los Angeles State College; M.A., 1963, Ph.D., 1968, University of Texas at Austin

Glaser, Roger M. Professor of Physiology and Biophysics; Professor and Acting Chair, Rehabilitation Medicine and Restorative Care B.A., 1968, M.S., 1969, Queens College of the City University of New York; Ph.D., 1971, The Ohio State University

Gleason, James J. Associate Professor Emeritus of English B.S., 1953, University of Dayton; M.A., 1957, Ph.D., 1969, The Ohio State University

Goldenberg, Robert A. Professor of Otolaryngology and Department Chair B.A., 1963, Stanford University; M.D., 1968, University of Louisville; M.S., 1973, University of Illinois

Goldfarb, Ivan J. Professor of Chemistry B.S., 1953, University of Kentucky; M.S., 1955, Ph.D., 1959, University of Cincinnati

Goldfinger, Melvyn D. Associate Professor of Physiology and Biophysics B.A., 1969, Rutgers University; M.S., 1972, University of Maryland; Ph.D., 1978, State University of New York

Goldstein, David L. Associate Professor of Biological Sciences B.A., 1979, University of Pennsylvania; M.A., 1980, Ph.D., 1983, University of California, Los Angeles

Gonzalez, Maria J. Assistant Professor of Biological Sciences "Licenciatura" in Biology, 1984, Universidad Central de Venezuela; M.S., 1988, Ph.D., 1992, University of Wisconsin

Gordon, William Professor of Education B.S., 1957, M.Ed., 1964, Miami University; Ed.D., 1968, Indiana University; J.D., 1985, University of South Carolina

Goulet, Waldemar M. Professor of Finance B.A., 1963, Wayne State University; M.B.A., 1966, University of Detroit; Ph.D., 1973, Michigan State University


Graham, Margaret Clark Associate Professor of Nursing A.S., 1973, Ferrum College; B.S.N., 1975, University of Virginia; M.S.N., 1977, Vanderbilt University; Ph.D., 1989, The Ohio State University

Grandhi, Ramana V. Professor of Mechanical Engineering; Brage Golding Distinguished Professor of Research B.Tech., 1978, Regional Engineering College (India); M.S., 1980, Indian Institute of Technology (India); Ph.D., 1984, Virginia Polytechnic Institute and State University

Green, Barbara L. Associate Professor of History B.A., 1973, Presbyterian College; M.A., 1975, North Texas State University; Ph.D., 1980, University of Missouri

Green, December Assistant Professor of Political Science B.A. (cum laude), 1982, M.A., 1983, Ph.D., 1988, University of South Carolina

Green, Phyllis M. Assistant Professor of Urban Affairs and Geography B.A., 1979, M.C.P., 1986, University of Cincinnati; A.B.D., 1993, University of Delaware

Green, Reginald L. Assistant Professor of Educational Leadership B.S., 1962, Tennessee State University; M.E., 1967, Memphis State University; E.D., 1975, University of Missouri–Columbia


Gressis, Nicolas Professor of Finance M.S., 1965, Rome (Italy); Ph.D., 1975, Pennsylvania State University

Griffin, Paul R. Associate Professor of Religion and Department Chair B.A., 1973, Wright State University; M.Div., 1976, United Theological Seminary; Ph.D., 1983, Emory University
FACULTY AND OFFICERS

Grossie, David A. Associate Professor of Chemistry B.S., 1977, Texas Lutheran College; Ph.D., 1982, Texas Christian University
Grubbs, Robert D. Associate Professor of Pharmacology and Toxicology B.A., 1974, Denison University; Ph.D., 1981, University of Kansas
Gulis, Charles S. Assistant Professor B.S., 1984, M.B.A., 1986, Youngstown State University; Ph.D., 1994, University of Massachusetts at Amherst
Guo, Shumei Associate Professor of Statistics and of Community Health B.P.H., 1976, National Taiwan University (Taiwan); M.S., 1980, State University of New York at Stony Brook; Ph.D., 1983, University of Pittsburgh
Haas, Edward F. Professor of History and Department Chair B.A., 1967, Tulane University; Ph.D., 1972, University of Maryland at College Park
Haber, Robert M. Associate Professor Emeritus of Mathematics and Statistics B.S., 1953, M.A., 1955, Ph.D., 1958, The Ohio State University
Hagan, Jarrell R. Adjunct Associate Professor of Environmental Health Sciences B.S., 1965, University of Wyoming; M.S., 1972, University of Arkansas
Hagen, Carol Assistant Professor Emerita of English, WSU-Lake Campus B.A., 1966, Ohio Northern University; M.A., 1968, Ball State University
Halki, John J. Professor of Obstetrics and Gynecology and Pharmacology and Toxicology; Chair, Department of Obstetrics and Gynecology B.S., 1950, West Virginia College of Pharmacy; B.S., 1954, West Virginia University School of Medicine; M.D., 1956, Medical College of Virginia; Ph.D., 1973, Kansas University Medical Center
Hall, Chris Associate Professor of English B.F.A., 1969, M.A., 1976, University of Utah; Ph.D., 1986, University of New Mexico
Hamilton, Glenn C. Professor of Emergency Medicine; Associate Professor of Medicine; Chair, Department of Emergency Medicine B.S., 1969, M.D., 1973, University of Michigan
Hamilton, Richard Assistant Professor of Psychology B.S., 1974, University of New Hampshire; M.A., 1979, Ph.D., 1983, University of Illinois
Hangartner, Thomas N. Professor of Biomedical and Human Factors Engineering; Director of Biomedical Imaging Laboratory dipl.Phys.ETH, 1975, Dr.sc.nat., 1978, Swiss Federal Institute of Technology
Hanks, William E. Associate Professor of Communication B.A., 1960, University of Denver; M.A., 1962, Miami University; Ph.D., 1970, University of Pittsburgh
Hannen, Russell A. Associate Professor of Electrical Engineering B.S.M.E., 1953, University of Minnesota; M.S.E.E., 1957, Ph.D., 1960, The Ohio State University
Hansell, T. Stevenson Professor of Education B.A., 1965, Dickinson College; M.Ed., 1970, University of Delaware; Ph.D., 1974, University of Virginia
Hanson, Harvey M. Professor Emeritus of Physics B.S., 1952, University of Akron; M.S., 1954, Ph.D., 1956, The Ohio State University
Harden, O. Elizabeth Professor Emerita of English B.A., 1956, Western Kentucky State University; M.A., 1958, Ph.D., 1965, University of Arkansas
Harris, Samuel T. Associate Professor of Education B.S., 1957, St. Paul's College; M.A., 1970, Ed.D., 1979, University of Denver
Hartmann, Charles J. Professor of Business Law A.B., 1959, Washington University; J.D., 1966, University of Missouri
Hassan, Nabil Professor of Accountancy B.S., 1955; M.A., 1967, Ph.D., 1969, University of Alabama
Hawley, John Assistant Professor of Computer Science and Mathematics, WSU-Lake Campus B.S., 1971, Defiance College; M.S., 1974, Wright State University
Haynes, Fred D. Assistant Professor of Industrial Engineering Technology, WSU-Lake Campus B.S., 1969, M.Ed., 1974, Oregon State University
He, Ping Associate Professor of Biomedical and Human Factors Engineering B.S., 1968, Fudan University (People's Republic of China); M.S., 1981, Ph.D., 1984, Drexel University
Hemsky, Joseph W. Associate Professor of Physics B.S., 1958, Missouri School of Mines and Metallurgy; Ph.D., 1966, Purdue University
Hennessy, Michael B. Professor of Psychology B.A., 1972, M.A., 1974, Ph.D., 1976, Northern Illinois University
Hereth, Russell H. Associate Professor of Accountancy B.B.A., 1964, University of Cincinnati; M.B.A., 1965, Miami University; CPA
Hess, George G. Associate Professor of Chemistry B.S., 1959, Juniata College; Ph.D., 1964, Pennsylvania State University
Hetherington, Robert A. Professor of Theatre Arts B.A., 1974, College of Wooster; M.A., 1975, Northwestern University
Hickok, Kimberley X. Instructor of Nursing B.S.N., 1985, University of South Carolina; M.S., 1989, Indiana Wesleyan University
Hiskey, Robert M. Assistant Professor of Biological Sciences, WSU-Lake Campus B.S., 1971, University of Nebraska; M.S., 1973, Florida State University; Ph.D., 1981, University of Nebraska
Ho, Lop-fat Associate Professor of Mathematics and Statistics B.S., 1975, M.Phil., 1977, Chinese University of Hong Kong; Ph.D., 1981, University of Wisconsin at Madison

Ho, Mengfei Assistant Professor of Biochemistry and Molecular Biology B.S., 1977, National Taiwan University; M.A., 1981, Ph.D., 1984, John Hopkins University

Hobbs, Jon R. Associate Professor of Management Science B.S., 1959, University of Wisconsin; M.S., 1963, Air Force Institute of Technology; Ph.D., 1972, Stanford University


Holdcraft, Carol A. Assistant Professor of Nursing B.S.N., 1971, M.S.N., 1973, University of Cincinnati

Honda, Shigeru I. Professor of Biological Sciences B.S., 1950, California Institute of Technology; M.S., 1952, Ph.D., 1954, University of Wisconsin

Hong, Lang Assistant Professor of Electrical Engineering B.S., 1982, Fuzhou University (China); M.S., 1986, Ph.D., 1989, University of Tennessee

Hong, Shane Y. Associate Professor of Mechanical Engineering B.S., 1975, National Taiwan University (Taiwan); M.S., 1981, Ph.D., 1982, University of Wisconsin

Hopkins, Barbara E. Assistant Professor of Economics B.A., 1985, University of California, San Diego; Ph.D., 1992, University of Maryland

Horn, Pierre L. Professor of French; Brage Golding Distinguished Professor of Research B.A., 1964, Brooklyn College; M.A., 1965, Ph.D., 1974, Columbia University

Hou, Xiang-Dong Assistant Professor of Mathematics and Statistics B.S., 1982, M.S., 1984, University of Science and Technology of China (People's Republic of China); Ph.D., 1990, University of Illinois at Chicago

Hough, Ronald F. Associate Professor of Philosophy and Department Chair B.S., 1961, University of Dayton; M.A., 1962, Miami University; Ph.D., 1970, The Ohio State University

Houston, Margaret A. Lecturer of Accounting B.S.B., 1984, M.B.A., 1985, Wright State University; CPA

Howard, Lillie P. Professor of English; Associate Provost for Undergraduate Education B.A., 1971, University of South Alabama; M.A., 1972, Ph.D., 1975, University of New Mexico

Hughes, James M. Professor Emeritus of English; Robert J. Kegerreis Distinguished Professor of Teaching B.A., 1961, Harvard University; M.A., 1962, Ph.D., 1969, University of Pennsylvania

Hull, Barbara Associate Professor of Biological Sciences A.B., 1971, Smith College; Ph.D., 1976, University of Colorado


Hutcheson, Jane B. Instructor of Nursing B.S.N., 1980, M.S. 1982, Wright State University

Hutzel, Willard J. Associate Professor of Political Science; Vice President for Academic Affairs B.A., 1959, Bowling Green State University; Ph.D., 1966, University of Maryland

Hye, Allen E. Associate Professor of German B.A., 1966, Franklin and Marshall College; M.A., 1967, Middlebury College; Ph.D., 1972, University of Connecticut

Iddings, Roger G. Professor Emeritus of Education A.B., 1952, Hanover College; M.Ed., 1960, Wayne State University; Ph.D., 1966, The Ohio State University

Irvine, William B. Associate Professor of Philosophy B.A., 1973, University of Michigan; M.A., 1976, Ph.D., 1980, University of California at Los Angeles

Isaacs, Larry D. Professor of Biological Sciences B.S., 1972, M.S., 1976, Virginia Commonwealth University; Ph.D., 1979, University of Maryland

Islam, A. K. M. Anirudd Professor of Anthropology B.A., 1952, M.A., 1954, University of Dacca (Pakistan); M.A., 1961, University of London (England); M.A., 1964, University of Toronto (Canada); Ph.D., 1969, McGill University

Jacob, James E. Professor of Political Science A.B., 1972, University of California at Berkeley; M.A., 1975, Ph.D., 1979, Cornell University

Jarrell, Howard B. Assistant Professor of Library Administration; Senior Reference Librarian, University Library B.S., 1955, University of Dayton; M.S.L., 1958, Case Western Reserve University

Jenkins, Alyce Associate Professor Emerita of Education B.S., 1957, Alabama Agricultural and Mechanical University; M.Ed., 1968, Kent State University

Jean, Jack Associate Professor of Computer Science and Engineering B.S., 1981, M.S., 1983, National Taiwan University (Taiwan); Ph.D., 1988, University of Southern California

John, Jeffrey A. Assistant Professor of Communication B.S., 1973, Bowling Green State University; M.A., 1982, Ph.D., 1990, Ohio University


Johnson, Melvin A., Jr. Professor of Physiology and Biophysics B.S., 1950, Central State University; M.S., 1955, Miami University; Ph.D., 1969, Jefferson Medical College

Jones, Mary Ann Associate Professor of Education and Professional Psychology B.S., 1968, M.A., 1973, Ph.D., 1975, University of Illinois

Kane, William J. Instructor of Finance; Coordinator, Financial Services Program B.A., 1949, St. Bonaventure University; M.S.F.S., 1979, The American College

Kantor, George J. Professor of Biological Sciences B.A., 1958, Slippery Rock State College; M.S., 1962, New Mexico Highlands University; Ph.D., 1967, Pennsylvania State University
Kaplan, Alexander Associate Professor of Mathematics and Statistics B.A., 1977, Israel Institute of Technology (Israel); Ph.D., 1986, University of Pennsylvania

Katovic, Vladimir Professor of Chemistry B.S., 1962, M.S., 1963, Ph.D., 1965, University of Zagreb (Yugoslavia)

Kaufman, Daniel J. Associate Professor of Finance B.S., 1967, Southern Illinois University; M.B.A., 1969, University of Dayton; M.S., 1981, Wright State University; Ph.D., 1986, The Ohio State University

Kazimierczuk, Marian K. Professor of Electrical Engineering; M.S., 1971, Ph.D., 1978, D.Sci, 1984, Technical University of Warsaw (Poland)

Kegreens, Robert J. Professor of Marketing; President Emeritus B.A., B.S., 1943, M.B.A., 1947, Ph.D., 1968, The Ohio State University

Kerlin, Timothy Lecturer of Education B.V.E., 1987, University of Toledo; M.Ed., 1990, University of Dayton

Ketcha, Daniel M. Associate Professor of Chemistry B.Sc., 1977, King’s College; Ph.D., 1983, Temple University

Khamis, Harry Professor of Mathematics and Statistics and of Community Health; Director, Statistical Consulting Center B.S., 1974, University of Santa Clara; M.S., 1976, Ph.D., 1980, Virginia Polytechnic Institute and State University

Khera, Inder P. Professor of Marketing B.S., 1956, Punjab University (India); B. Tech., 1959, Bombay University (India); M.S., 1962, M.A., 1963, Ph.D., 1968, University of Iowa

Khoury, Paul W. Instructor of Accountancy B.A., 1986, Wittenberg University; M.B.A., 1992, Wright State University; CPA


King, Cynthia Associate Professor of Classics B.A., 1960, Goucher College; Ph.D., 1969, University of North Carolina

King, Ruth Associate Professor Emerita of Education B.S., 1958, Wayne State University; M.A., 1967, New York University

King, William J. Associate Professor of Classics A.B., 1960, Ph.D., 1970, University of North Carolina

Kisch, June Associate Professor of Education B.S., 1970, M.Ed., 1977, Ph.D., 1980, Kent State University


Klein, Helen A. Professor of Psychology; Director, Applied Behavioral Sciences B.S., 1964, Michigan State University; M.S., 1967, Ph.D., 1969, University of Pittsburgh

Klein, James Associate Professor of Theatre Arts B.A., 1972, Antioch College

Klein, Sherwin J. Professor Emeritus of Psychology A.B., 1940, Case Western Reserve University; M.A., 1947, Ph.D., 1951, University of Pennsylvania

Kleine, Patricia Assistant Professor of Education B.A., 1970, University of Northern Colorado; M.A., 1976, Ed.D., 1990, University of Maine

Knapke, Thomas A. Professor Emeritus of Management, WSU–Lake Campus B.S., 1966, University of Dayton; M.B.A., 1968, Ball State University; Ph.D., 1982, Bowling Green State University

Knauert, Pam Assistant Professor of Theatre Arts B.F.A., 1980, M.F.A., 1985, Boston University

Koebenrick, Thomas Associate Professor of Sociology B.A., 1967, University of Houston; M.A., 1970, Texas Christian University; Ph.D., 1974, Michigan State University

Koerber, Robert L. Associate Professor of Pharmacology and Toxicology and Acting Chair B.A., 1965, Kalamazoo College; Ph.D., 1970, Emory University

Koerlin, Ernest F. Associate Professor of Art and Art History B.F.A., 1961, Minneapolis School of Art; M.F.A., 1965, Yale University

Kogut, Maurice D. Professor of Pediatrics and Department Chair B.A., 1951, New York University; M.D., 1955, New York University Bellevue Medical Center

Koop, Rebecca B. Assistant Professor of Management Information Systems B.S., 1983, M.B.A., 1986, University of Dayton; Ph.D., 1994, University of Cincinnati

Koplon, Renée Assistant Professor of Mathematics and Statistics A.B., 1987, Columbia University; Ph.D., 1994, Rutgers University

Kramer, Kenneth F. Associate Professor of Geological Sciences B.S., 1961, Rice University; Ph.D., 1967, Florida State University

Kraus, Dan E. Assistant Professor of Biological Sciences B.S., 1985, John Carroll University; Ph.D., 1990, The Pennsylvania State University

Kremer, Ronald A. Assistant Professor of Accountancy, WSU–Lake Campus B.S., 1969, Saint Joseph’s College; M.B.A., 1970, Xavier University; CPA

Kruger, Brian M. Associate Professor of Psychology B.A., 1965, Wartburg College; M.A., 1967, Ph.D., 1969, University of Iowa

Kulander, Byron F. Professor of Geological Sciences and Department Chair B.S., 1962, Kent State University; M.S., 1964, Ph.D., 1969, West Virginia University

Kumar, Rishi Professor of Economics; Dean, College of Business and Administration B.A., 1954, University of Delhi (India); M.A., 1970, Vanderbilt University; Ph.D., 1972, Wayne State University

Kuntzman, Andrew J. Associate Professor of Anatomy B.S., 1961, M.S., 1963, Ph.D., 1970, The Ohio State University

Kurdey, Lawrence A. Professor of Psychology B.S., 1973, Loyola University; M.A., 1975, Ph.D., 1976, University of Illinois
Lafferty, William Associate Professor of Theatre Arts B.S., 1972, M.A., 1977, Purdue University; Ph.D., 1981, Northwestern University
La Forge, Jan Associate Professor of Rehabilitation Counseling, Chair, Department of Human Services B.A., 1976, Northwestern College; M.A., 1977, Ph.D., 1983, University of Michigan
Lai, Andrew W. Associate Professor of Management Science B.A., 1961, Chung Hsing University (Taiwan); M.A., 1964, University of Alabama; Ph.D., 1974, The Ohio State University
Lanford, Horace W., Jr. Professor Emeritus of Management B.B.A., 1948, University of Georgia; M.A., 1950, George Washington University; Ph.D., 1964, The Ohio State University
Langley, Albert E. Professor of Pharmacology and Toxicology; Associate Dean for Academic Affairs; School of Medicine B.S., 1967, Wayne State College; Ph.D., 1974, The Ohio State University
Larkowski, Charles Associate Professor of Music B.Mus., 1971, M.A., 1974, Ph.D., 1977, Michigan State University
Larsen, James E. Associate Professor of Finance B.S.B.A., 1974, M.B.A., 1976, University of Akron; Ph.D., 1987, University of Nebraska
Lauf, Peter K. Professor of Physiology and Biophysics and Department Chair M.D., 1960, University of Freiburg (Germany)
Laws, Francis Associate Professor of Music and Assistant Department Chair B.Mus., 1965, B.S., 1966, Texas A&M University; M.Ed., 1967, University of Houston
Leach, C. David Associate Professor of Art and Art History A.B., 1968, Bucknell University; M.F.A., 1973, Ohio University
Leffak, Ira M. Professor of Biochemistry and Molecular Biology B.S., 1969, City College of New York; Ph.D., 1976, City University of New York
Leonard, Charles Professor of Education, Chair; Department of Educational Leadership B.S., 1957, Southwest Missouri State University; M.Ed., 1963, Ed.D., 1968, University of Missouri-Columbia
Leung, Jackson Assistant Professor of Music Diploma, 1981, Hong Kong Baptist College; M.M., 1984, Temple University; D.M.A., 1990, College Conservatory of Music, University of Cincinnati
Lieh, Junghsen Assistant Professor of Mechanical Engineering B.S., 1977, National Taiwan University (Taiwan); M.S., 1986, Ph.D., 1990, Clemson University
Lightle, Susan S. Associate Professor of Accounting B.A., 1976, Denison University; M.B.A., 1984, Wright State University; CPA; Ph.D., 1992, University of Cincinnati
Limouze, Henry Associate Professor of English; Chair, Department of English Language and Literatures B.A., 1972, Oberlin College; M.A., 1975, Ph.D., 1976, The Johns Hopkins University
Lipp, Beth Assistant Professor of Nursing B.S.N., 1983, Wright State University; M.S.N., 1985, Ph.D., 1992, The Ohio State University
Lipsitt, Harry A. Professor of Materials Science and Engineering B.S., 1952, Michigan State College; M.S., 1955, Ph.D., 1956, Carnegie Institute of Technology
Listerman, Thomas W. Associate Professor of Physics B.S., 1959, Xavier University; M.S., 1962, Ph.D., 1965, Ohio University
Lockhart, Paul D. Assistant Professor of History B.A., State University of New York College at Potsdam; M.A., 1986, Ph.D., 1989, Purdue University
Loi, Phan Assistant Professor of Mathematics and Statistics B.S., 1984, University of Scranton; Ph.D., 1988, The Pennsylvania State University
Loranger, Carol S. Assistant Professor of English B.A., 1982, M.A., 1988, University of Nebraska-Reno; Ph.D., 1992, University of Colorado, Boulder
Low, Kay R. Associate Professor of Biological Sciences; Director, Medical Technology Program B.S., 1961, Daemen College; M.S., 1967, Ohio University; Ph.D., 1972, State University of New York at Buffalo
Low, Marc E. Associate Professor of Mathematics; Dean, College of Science and Mathematics B.S., 1958, M.S., 1960, Oklahoma State University; Ph.D., 1965, University of Illinois
Lowrey, Kenneth Instructor of Urban Affairs and Geography B.S., 1968, Memphis State University; M.S., 1988, Southern Illinois University at Edwardsville; A.B.D., University of Cincinnati
Lu, Guozhen Assistant Professor of Mathematics and Statistics B.S., 1983, Hangzhou University, China; Ph.D., 1991, Rutgers University
Lu, Luo Associate Professor of Physiology and Biophysics M.D., 1983, Shanghai Medical School (China); Ph.D., 1988, University of Minnesota
Lumpkin, Joan B. Lecturer of Management Information Systems B.S., 1968, M.B.A., 1976, University of Dayton
MacDonald, Marguerite G. Associate Professor of English; Director of TESOL/ESL Programs B.A., 1966, De Pauw University; M.A., 1973, 1978, Ph.D., 1985, University of Florida
Mack, Nancy Associate Professor of English B.S., 1970, Bowling Green State University; M.A., 1976, Ph.D., 1986, The Ohio State University
Makay, Leigh Assistant Professor of Communication B.S., 1973, State College of Arkansas; M.A., 1984, Wright State University; Ph.D., 1992, The Ohio State University
Makkar, Jagdish Voluntary Associate Professor of Anatomy; Associate Clinical Professor of Surgery M.D., 1958, Seth G.S. Medical College (India)
Manrak, Mark Associate Professor of Biological Sciences B.S., 1972, Purdue University; Ph.D., 1978, Baylor College of Medicine
Maner, Martin Professor of English B.A., 1968, Occidental College; M.A., 1972, Ph.D., 1975, University of Virginia
Maneri, Carl C. Associate Professor of Mathematics and Statistics B.S., 1954, Case Institute of Technology; Ph.D., 1959, The Ohio State University

Mann, Barbara L. Associate Professor of Statistics A.B., 1962, University of Tennessee; M.S., 1965, Tulane University; M.S., 1974, Ph.D., 1979, Virginia Polytechnic Institute and State University

Martín, John S. Professor of Physics B.S., 1950, M.S., 1952, University of Natal (South Africa); D.Phil., 1957, Oxford University

Martín, Patricia A. Assistant Professor of Nursing; Director of Nursing Research B.S.N., 1971, University of Cincinnati; M.S., 1980, Wright State University; Ph.D., 1988, Case Western Reserve University

Mateti, Prabhaker Associate Professor of Computer Science and Engineering B.E., 1969, Regional Engineering College, Osmania University (India); M.Tech., 1972, Indian Institute of Technology; Ph.D., 1976, University of Illinois

Mathews, Susann M. Assistant Professor of Education and of Mathematics and Statistics B.A., 1974, Meredith College; M.A., 1987, University of New Mexico; M.S., 1989, University of Cincinnati; Ph.D., 1994, The Ohio State University

Mathies, Bonnie K. Associate Professor of Education; Assistant Dean, Technology and Communication B.Ed., 1964, M.Ed., 1968, Ph.D., 1976, University of Toledo

Mathual, David M. Professor of Russian B.A., 1966, Illinois State University; M.A., 1968, Ph.D., 1971, University of Wisconsin

Maze, Mary Ellen Professor of Urban Affairs and Geography B.A., 1970, M.A., 1972, West Virginia University; Ph.D., 1977, University of Cincinnati

Mazumdar, Tapas Professor of Mathematics and Statistics B.S., 1954, M.S. 1957, Calcutta University (India); D.I.C., 1963, Imperial College (England); M.S., Ph.D., 1971, University of Illinois


McCarther, Will Associate Professor of Education and Educational Leadership; Chair, Department of Teacher Education B.S., 1967, Lincoln University; M.S., 1971, Central Missouri University; Ed.Spec., 1973, University of Missouri; Ph.D., 1974, University of Iowa

McClellan, Maggie Assistant Professor of Theatre B.F.A., 1981, California Institute of the Arts; M.F.A., 1987, Southern Methodist University

McCormick, William S. Associate Professor of Electrical Engineering B.S.E.E., 1961, Marquette University; M.S., 1963, Ph.D., 1967, University of Wisconsin

McDermott, Roger D. Assistant Professor of Chemistry WSU-Lake Campus B.A., 1962, Ohio Wesleyan University; M.S., 1965, Ph.D., 1968, Purdue University

McDowell, Gerald L. Associate Professor of Art and Art History B.A., 1965, M.A., 1966, University of California at Berkeley

McDowell, W. Stuart Associate Professor of Theatre Arts and Chair B.A., 1969, Macalister College; M.A., 1974, Ph.D., 1994, University of California, Berkeley

McGowin, Audrey E. Assistant Professor of Chemistry B.S., 1985, Emporia State University; M.S., 1989, Ph.D., 1991, University of Missouri-Columbia

McKee, Terry Professor of Mathematics and Statistics and of Computer Science B.A., 1968, University of Nebraska; M.A., 1970, Ph.D., 1974, University of Wisconsin

Mechlin, Katherine A. Assistant Professor of Physiology and Biophysics B.S., 1969, M.S., 1972, The Ohio State University


Mehta, Gopal M. Professor of Materials Science and Engineering B.Sc., 1963, M.Sc., 1968, Banaras Hindu University (India); Dr.-Ing., 1975, Technical University Berlin (West Germany)

Meikle, Gerald Associate Professor of Mathematics and Statistics B.S., 1952, Aquinas College; M.A., 1954, University of Detroit; Ph.D., 1969, University of Michigan

Melko, Mathew Professor of Sociology B.A., 1951, Alfred University; M.A., 1952, University of Chicago; M.S., 1955, Columbia Graduate School of Journalism; Ph.D., 1959, London School of Economics and Political Science (England)

Melton, Edgar Associate Professor of History B.A., 1971, University of North Carolina; Ph.D., 1984, Columbia University

Mercer, Richard Associate Professor of Mathematics and Statistics B.S., 1973, The Ohio State University; Ph.D., 1980, University of Washington

Messner, Phillip Professor of Education B.S., 1963, North West Missouri State University; M.S., 1970, Wisconsin State University at Superior; Ed.D., 1975, University of Missouri


Michenfelder, Mary Assistant Professor of Music B.M., 1986, Baldwin-Wallace College; M.M., 1988, Florida State University

Miller, David F. Associate Professor of Mathematics and Statistics B.S., 1968, University of Louisville; M.S., 1976, Ph.D., 1979, University of Kentucky

Miller, Ian Assistant Professor of Biological Sciences B.Sc., 1978, Ph.D., 1982, University of Strathclyde (Scotland)

Milligan, Barry Assistant Professor of English B.A., 1986, University of Colorado; M.A., 1988, Ph.D., 1992, Duke University
Associate Professor of Electrical Engineering; Adjunct Assistant Professor of Electrical and Computer Engineering, Concordia University (Canada) B. Tech., 1983, Indian Institute of Technology (India); Ph.D., 1987, Concordia University (Canada)

Arthur A. Assistant Professor of English, WSU–Lake Campus B.A. 1964, Villanova University; M.A., 1966, University of Dayton

Perry D. Professor of Political Science; Dean, College of Liberal Arts; Interim Chair, Department of Theatre Arts B.A., 1968, M.A., 1969, Midwestern University; Ph.D., 1974, University of Texas at Austin

Professor of Biological Sciences and Department Chair; Associate Dean, College of Science and Mathematics B.S., 1975, Texas A&M University; M.S., 1977, The University of Georgia; Ph.D., 1980, University of California at Los Angeles

Associate Professor of Psychology B.A., 1964, New York University; M.A., 1967, Hofstra University; Ph.D., 1969, Kansas State University

Assistant Professor of Theatre Arts B.A., 1969, Trinity College; M.F.A., 1983, Boston University

Assistant Professor of Sociology B.A., 1952, Berea College; M.A., 1967, The Ohio State University


Associate Professor Emeritus of Art and Art History B.A., 1950, University of Michigan; M.A., 1951, The Ohio State University

Professor of Psychology B.S., 1969, M.S., 1971, Ph.D., 1974, Michigan State University

Associate Professor of Anatomy B.A., 1962, Case Western Reserve University; M.A., 1965, State University of New York at Buffalo; Ph.D., 1969, State University of New York Upstate Medical Center

Instructor of Mathematics and Statistics B.S., 1965, Purdue University; M.Ed., 1970, University of Delaware

Associate Professor of Electrical Engineering B.S., 1976, Sri Venkateswara University; M.S., 1982, Syracuse University; Ph.D., 1986, University of Mississippi

Assistant Professor of Biomedical and Human Factors Engineering B.S.M.E., 1987, Regional Institute of Technology at Jamshedpur, India; M.S.I.E., 1988, University of Alabama; Ph.D., 1994, Georgia Institute of Technology

Associate Professor of Art History A.B., 1966, Mount Holyoke College; Ph.D., 1973, The Johns Hopkins University

Associate Professor of Nursing B.S.N., 1970, University of Bridgeport; M.S.N., 1972, Yale University; Ph.D., 1980, Walden University

Assistant Professor of Music; Coordinator, Music Education; Director of Graduate Studies in Music B.M., 1968, College Conservatory of Music, University of Cincinnati; M.M., 1981, Wright State University; D.M.E., 1988, College Conservatory of Music, University of Cincinnati

Associate Professor of Religion B.A., 1953, Pacific Lutheran Theological Seminary; B.Th., 1957, Luther Theological Seminary; Th.D., 1959, University of Heidelberg (Germany)


Associate Professor of Anatomy B.S., 1977, Pennsylvania State University; Ph.D., 1981, University of Pittsburgh

Associate Professor Emeritus of Biological Sciences, WSU–Lake Campus B.S., 1960, M.S., 1965, Ed.D., 1970, Ball State University

Associate Professor of Physiology and Biophysics B.S., 1956, Brooklyn College of the City University of New York; M.A., 1958, Williams College; Ph.D., 1964, Yale University

Assistant Professor of Nursing; Associate Dean for Academic Affairs, School of Nursing B.S.N., 1968, University of Michigan; M.S.N., 1976, University of Cincinnati; Ph.D., 1992, The Ohio State University

Assistant Professor of French B.A., 1978, University of Iowa; M.A., 1980, Ph.D., 1991, University of North Carolina at Chapel Hill

Associate Professor of Economics B.A., 1983, California State University; Ph.D., 1989, University of Utah

Associate Professor of Sociology and Communication; Chair, Department of Sociology and Anthropology A.B., 1972, Temple University; M.A., 1974, Ph.D., 1978, The Ohio State University

Professor of Biochemistry and Molecular Biology and Department Chair A.B.A., 1965, Niagara County Community College; B.A., 1967, M.S., 1969, Ph.D., 1972, State University of New York at Buffalo

Assistant Professor of Economics B.A., 1986, University of Texas–Austin; M.A., 1989, Ph.D., 1993, University of California–Los Angeles

Professor of Urban Affairs and Geography B.S., 1961, Utah State University; M.A., 1965, Ph.D., 1972, University of Washington

Instructor of Mathematics and Statistics B.S., 1986, M.S., 1992, Wright State University

Associate Professor of Management B.A., 1979, M.A., 1987, Ph.D., 1987, The Ohio State University, PHR

Associate Professor of Art Education B.S., 1970, M.Ed., 1971, Wright State University; Ph.D., 1980, The Ohio State University
FACULTY AND OFFICERS

Oxindine, Annette Assistant Professor of English B.A., 1982, Frostburg State University; M.A., 1985, West Virginia University; Ph.D., 1992, University of Maryland

Pabst, Donald F. Professor of Accountancy B.B.A., 1957, University of Cincinnati; M.B.A., 1958, Ph.D., 1961, The Ohio State University; CPA

Pacernick, Gary B. Professor of English B.A., 1963, University of Michigan; M.A., 1966, University of Minnesota; Ph.D., 1969, Arizona State University

Page, Richard A. Associate Professor of Psychology A.B., 1965, Hamilton College; Ph.D., 1972, University of Rochester

Paletta, John Associate Professor of Biochemistry and Molecular Biology B.S., 1975, Washington State University; M.S., 1977, Ph.D., 1982, University of Illinois, Urbana

Pappas, Marjorie L. Assistant Professor of Education B.S., 1961, University of Toledo; M.Ed., 1977, Ph.D., 1987, Miami University

Park, Won Joon Professor of Statistics B.S., 1957, Seoul National University (Korea); M.A., 1966, University of California; Ph.D., 1969, University of Minnesota

Paul, Randall S. Assistant Professor of Music B.S., 1979, Jacksonville State University; M.M., 1981, Ithaca College

Payne, L. Tyrone Professor of Education B.S., 1962, M.A., 1966, Ball State University; Ph.D., 1970, Indiana University

Pearson, John C. Associate Professor of Anatomy B.S., 1974, Muskingum College; Ph.D., 1978, West Virginia University School of Medicine

Pedersen, Steen Associate Professor of Mathematics and Statistics Ph.D., 1985, Aarhus University (Denmark)

Peoples, James B. Associate Professor of Surgery and Acting Department Chair A.B., 1967, Franklin and Marshall College; M.D., 1971, New York University School of Medicine

Perkel, Manley Associate Professor of Mathematics B.Sc. (Hons.), 1971, University of the Witwatersrand (South Africa); M.S., 1972, Ph.D., 1977, University of Michigan

Petreman, David A. Associate Professor of Spanish B.A., 1970, Illinois Wesleyan University; M.A., 1976, Ph.D., 1984, University of Iowa

Petrick, Joseph A. Associate Professor of Management B.A., 1968, University of Southern Colorado; M.A., 1970, Pennsylvania State University; M.B.A., 1990, University of Cincinnati; Ph.D., 1972, Pennsylvania State University, SPHR

Phillips, Chandler A. Professor of Biomedical and Human Factors Engineering A.B., 1965, Stanford University; M.D., 1969, University of Southern California; P.E., 1974, Sacramento State College

Phillips, Lloyd G. Voluntary Associate Professor of Anatomy; Clinical Instructor of Surgery B.A., 1962, Miami University; M.D., 1966, Meharry Medical College; Ph.D., 1973, University of Minnesota

Ping, Robert Associate Professor of Marketing B.S., 1964, Pennsylvania State University; M.S., 1966, University of Kentucky; M.B.A., 1987, Ph.D., 1990, University of Cincinnati

Pinet, Samuel E. Professor of Neurology and Department Chair B.A., 1953, M.D., 1956, University of Tennessee

Pittman, Alexander Adjunct Assistant Professor of Library and Communication Science and Modern Languages, WSU–Lake Campus; Librarian, WSU–Lake Campus B.S., 1972, M.A., 1974, Bowling Green State University; M.L.S., 1979, University of Kentucky

Pohlmans, Robert L. Associate Professor of Biological Sciences B.S., 1973, M.Ed., 1978, University of Cincinnati; Ph.D., 1982, The Ohio State University


Powers, C. John Assistant Professor of Religion B.A., 1979, Holy Cross College; M.A., 1984, McMaster University; Ph.D., 1991, University of Virginia

Fraeger, Susan Associate Professor of Nursing B.A., 1970, Colorado State University; M.S., 1973, New York Medical College; Ed.D., 1980, University of Northern Colorado

Premus, Robert Professor of Economics and Department Chair B.S., 1963, Bob Jones University; M.A., 1967, Ohio University; Ph.D., 1974, Lehigh University

Presno, Vincent Associate Professor of Education B.A., 1957, Hofstra University; M.A., 1961, New York University; Ed.D., 1975, Columbia University

Pringle, Mary B. Professor of English B.A., 1964, M.A., 1967, University of Denver; Ph.D., 1976, University of Minnesota

Prochaska, Lawrence J. Associate Professor of Biochemistry and Molecular Biology B.S., 1971, Illinois State University; Ph.D., 1975, The Ohio State University

Pruett, Robert E. Professor of Communication; Program Coordinator, Social and Industrial Communication B.S., 1959, University of Notre Dame; M.A., 1962, Northern Illinois University; Ph.D., 1970, Bowling Green State University

Pushkar, Paul Professor of Geological Sciences B.S., 1960, University of Manitoba (Canada); Ph.D., 1966, University of California at San Diego

Putnam, Robert W. Associate Professor of Physiology and Biophysics B.S., 1973, Brown University; Ph.D., 1978, University of California at Los Angeles

Rake, Adrian V. Associate Professor Emeritus of Biological Sciences B.A., 1956, Swarthmore College; Ph.D., 1964, University of Pennsylvania; B.S.N., 1975, Pennsylvania State University
Ratnaparkhi, Makarand V. Professor of Mathematics and Statistics B.S., 1955, B.S., 1956, M.S., 1958, M.S., 1962, University of Poona (India); Ph.D., 1975, Pennsylvania State University

Ratan, Kuldeep S. Professor of Electrical Engineering and Computer Engineering B.S., 1969, Punjab Engineering College (India); M.S.E.E., 1972, Ph.D., 1975, University of Kentucky

Raulsten, James W. Assistant Professor of Education B.S., 1958, Southwest Missouri State University; M.Ed., 1964, Missouri University; Ed.S., 1968, Central Missouri State University; Ed.D., 1977, Missouri University


Reach, Darryl Instructor of Education B.S., 1963, Northern Illinois University; M.S., 1964, University of Illinois

Ream, Larry J. Associate Professor of Anatomy B.S., 1967, Elizabethtown College; Ph.D., 1976, University of Kansas

Reece, Robert D. Professor of Community Health and of Religion; Chair, Department of Community Health B.A., 1961, Baylor University; B.D., 1964, Southern Baptist Theological Seminary; M.A., 1966, M.Phil., 1968, Ph.D., 1969, Yale University

Reichert, Julia Associate Professor of Theatre Arts B.A., 1970, Antioch College


Renas, Stephen M. Professor of Economics A.B., 1968, M.A., 1969, Ph.D., 1971, Georgia State University

Renick, Patricia R. Instructor of Education A.A., 1968, Stephens College; B.S., 1974, M.S., 1975, Miami University

Rentzsch, Joan R. Associate Professor of Psychology B.S., 1982, The Ohio State University; M.A., 1985, Ph.D., 1988, University of Maryland

Reo, Nicholas V. Associate Professor of Biochemistry and Molecular Biology B.A., 1978, Rutgers University; M.S., 1981, Ph.D., 1983, University of Massachusetts

Reynolds, David B. Associate Professor of Biomedical and Human Factors Engineering B.S., 1971, M.S., 1972, Ph.D., 1978, University of Virginia

Richard, Benjamin H. Professor of Geological Sciences B.S., 1958, Virginia Polytechnic Institute and State University; M.A., 1961, Ph.D., 1966, Indiana University

Rickert, William E. Professor of Communication; Associate Dean, College of Liberal Arts, Coordinator of Selected Studies B.S., 1968, Illinois Wesleyan University; M.A., 1971, Central Michigan University; Ph.D., 1974, University of Michigan

Ricks, James Associate Professor of Education B.S.E., 1966, Northern Illinois University; M.S.E., 1971, Purdue University; Ph.D., 1983, University of Michigan

Rife, Ronald E. Assistant Professor of Mathematics, WSU–Lake Campus B.S., 1967, Manchester College; M.S., 1969, Michigan State University

Riordan, Robert V. Associate Professor of Anthropology B.A., 1968, Colgate University; Ph.D., 1975, Southern Illinois University

Risner, Phyllis B. Associate Professor of Nursing B.S.N., 1957, M.S.N., 1979, Indiana University; Ph.D., 1987, Miami University

Ritz, Robert J. Assistant Professor of Geological Sciences B.A., 1981, Wittenberg University; M.S., 1983, Wright State University; Ph.D., 1989, University of Arizona

Rizki, Mateen M. Associate Professor of Computer Science and Engineering B.S., 1981, University of Michigan; M.S., 1982, Ph.D., 1985, Wayne State University

Roach, Margaret A. Assistant Professor of Library Administration; Senior Reference Librarian B.A., 1959, Notre Dame College; M.S., 1962, Duquesne University; M.L.S., 1965, University of Pittsburgh

Rodenhauser, Paul Professor of Psychiatry and Department Chair B.A., 1959, Gettysburg College; M.D., 1963, Jefferson Medical College

Rodin, Alvin E. Professor of Postgraduate Medicine and Continuing Education and Pathology; Chair, Department of Postgraduate Medicine and Continuing Education A.B., 1945, M.D., 1950, M.S., 1960, University of Manitoba (Canada)

Rodriguez, Jon Associate Professor of Dance


Ross, Charles B. Associate Professor of Computer Science and Engineering B.S., 1957, Villanova University; M.S., 1963, Ph.D., 1969, Purdue University

Rossmiller, John D. Associate Professor Emeritus of Biological Sciences B.S., 1956, M.S., 1962, Ph.D., 1965, University of Wisconsin

Rote, Neal S. Professor of Microbiology and Immunology and Department Chair B.A., 1969, Temple University; Ph.D., 1974, Temple University School of Medicine

Rowley, Blair A. Professor of Biomedical and Human Factors Engineering B.S.E.E., 1962, Missouri School of Mines and Metallurgy; M.S.E.E., 1963, Ph.D., 1970, University of Missouri

Rubin, Robert Instructor of English B.A., 1990, Indiana State University; M.A., 1993, Wright State University

Ruminiski, Henry J. Assistant Professor of Communication B.S., 1964, M.S., 1968, Ph.D., 1972, Ohio University

Runkle, James R. Professor of Biological Sciences B.A., 1973, Ohio Wesleyan University; Ph.D., 1979, Cornell University
Rutter, Edgar A. Professor of Mathematics and Statistics; Chair, Department of Mathematics and Statistics; Frederick A. White Distinguished Professor of Service B.A., 1959, Marietta College; Ph.D., 1965, Iowa State University

Ryan, Charles Professor of Education and Educational Leadership and Human Services; Coordinator, Advanced Degree Programs, College of Education and Human Services B.S., 1959, Slippery Rock State University; M.A., 1961, Colgate University; Ph.D., 1966, University of Toledo

Sammons, Martha C. Professor of English B.A., 1971, Wheaton College; Ph.D., 1974, University of North Carolina

Sanders, Nada R. Associate Professor of Logistics B.S., 1978, Franklin University; M.B.A., 1981, Ph.D., 1986, The Ohio State University

Saunders, Paula M. Associate Professor of Marketing B.A., 1965, Wilmington College; M.Ed., 1974, Wright State University; Ph.D., 1979, Miami University


Savells, Jerold O. Professor of Sociology B.S., 1963, Murray State University; M.A., 1969, Ph.D., 1971, Louisiana State University


Sayer, James E. Professor of Communication and Department Chair B.S.Ed., 1968, Northern Arizona University; M.A., 1969, University of Arizona; Ph.D., 1974, Bowling Green State University

SchaefT, Patricia L. Instructor of Finance B.S., 1981, Wright State University; M.B.A., 1983, Miami University

Scherer, Robert F. Professor of Management and Associate Dean for Community Relations B.A., 1977, Miami University; M.A., 1984, University of Redlands; Ph.D., 1987, University of Mississippi, SPHR

Schlagheck, Donna M. Associate Professor of Political Science; Director, International Studies Program B.A., 1979, Ph.D., 1985, University of Minnesota


Schosser, Robert H. Assistant Professor of Dermatology and Pathology B.A., 1966, Centre College of Kentucky; M.D., 1970, University of Louisville School of Medicine

Schroeter, Arnold L. Professor of Dermatology and Department Chair B.A., 1958, Southwestern at Memphis; M.D., 1961, University of Tennessee

Schumacher, Ruth B. Associate Professor of Education B.S., 1967, Northern Illinois University; M.Ed., 1969, Ph.D., 1972, University of Illinois

Schumm, Gregory F. Assistant Professor of Engineering Technology, WSU–Lake Campus; Associate Dean, WSU–Lake Campus A.Arch., 1969, I.T.T. Technical Institute; B.S., 1972, M.Ed., 1976, Bowling Green State University

Schwartz, James M. Associate Professor of English, WSU–Lake Campus B.S., 1971, M.A., 1975, Ph.D., 1977, Ohio University


Scott, Jane N. Associate Professor of Anatomy A.B., 1966, Transylvania University; M.S., 1968, Ph.D., 1971, University of Kentucky

Seiger, Marvin B. Professor Emeritus of Biological Sciences B.S., 1950, Duquesne University; M.A., 1953, University of Texas; M.A., 1959, University of California at Los Angeles; Ph.D., 1962, University of Toronto

Self, Eileen F. Assistant Professor of Education B.S., 1971, University of Tampa; M.Ed., 1972, Ph.D., 1976, University of Mississippi

Seoh, Munsoop Associate Professor of Statistics B.S., 1970, Sogang University (Korea); M.S., 1979, Ph.D., 1983, Indiana University

Servé, M. Paul Professor of Chemistry and Department Chair B.S., 1961, Ph.D., 1965, University of Notre Dame

Seybold, Paul G. Professor of Chemistry B.Engr. Physica, 1960, Cornell University; Ph.D., 1968, Harvard University

Shaw, Arnab K. Associate Professor of Electrical Engineering B.S., 1979, Jadavpur University (India); M.S., 1983, Villanova University; Ph.D., 1987, University of Rhode Island

Shearer, Anne B. Adjunct Assistant Professor of Education; Director, Developmental Education, University Division B.A., 1958, Howard University; M.A., 1964, Atlanta University; Ph.D., 1970, Ohio University

Shenoi, Belle A. Professor of Electrical Engineering; Honorary Professor, Department of Electrical Engineering, National Chen-Kung University (Taiwan) B.Sc., 1951, University of Madras (India); D.I.I.Sc., 1955, Indian Institute of Science (India); M.S., 1958, Ph.D., 1962, University of Illinois

Shepelak, Norma J. Associate Professor of Sociology B.A., 1974, M.A., 1979, Ph.D., 1981, Indiana University

Sherman, John W. Assistant Professor of History B.A., 1983, Baylor University; M.A., 1989, University of Toledo; Ph.D., 1994, University of Arizona

Shiu, Y.C. Greg Assistant Professor of Electrical Engineering B.A.Sc., 1983, University of Toronto; M.S., 1985, Ph.D., 1989, Purdue University
Shock, Robert C. Associate Professor of Computer Science and Engineering B.S., 1962, Bowling Green State University; M.A., 1964, University of Arizona; Ph.D., 1969, University of North Carolina

Shupe, Lewis K. Professor Emeritus of Education and Communication B.S., 1957, M.S., 1960, University of Utah; Ph.D., 1968, State University of New York at Buffalo

Siegal, Karin Assistant Professor of Electrical Engineering and Computer Engineering; Chair, Department of Electrical Engineering B.E.E., 1959, The Ohio State University; M.S., 1963, University of New Mexico; Ph.D., 1977, Air Force Institute of Technology


Skriner, Thomas E. Assistant Professor of Physics B.A., 1974; M.A., 1976; Ph.D., 1984, The John Hopkins University

Slater, Joseph C. Assistant Professor of Mechanical Engineering B.S., 1989; M.S., 1992; Ph.D., 1993, State University of New York (SUNY)

Slattery, William Assistant Professor of Geological Sciences and Teacher Education B.S., 1986, Jersey City State College; M.A.T., 1988, St. Peter's College; Ph.D., 1993, City University of New York

Slonaker, William M. Associate Professor of Business Law and Management and Department Chair B.S., 1968, M.B.A., 1969, University of Dayton; J.D., 1979, The Ohio State University, SPHR

Smith, Larry L. Instructor of Electrical Engineering B.S., 1958, Oregon State University; M.S., 1963, University of Washington; M.B.A., 1974, Ph.D., 1976, University of Oregon

Smith, Reed M. Professor Emeritus of Political Science A.B., 1949, Oberlin College; M.A., 1953, Columbia University; M.A., 1954, Pennsylvania State University; Ph.D., 1961, Columbia University

Snavely, H. Jim Professor of Accountancy B.B.A., 1956, University of Oklahoma; M.B.A., 1964, University of Denver; D.B.A., 1968, University of Colorado; CPA

Snyder, Carol L. Assistant Professor of English, WSU–Lake Campus B.S., 1969, Ohio Northern University; M.A., 1970, Bowling Green State University

Son, In Soo Assistant Professor of Sociology B.A., 1979, Ritsumeikan University (Japan); M.A., 1983, University of Hawaii; Ph.D., 1990, University of Massachusetts

Spalding, George R. Associate Professor of Electrical Engineering B.S., 1953, M.S., 1955, Ph.D., 1974, Lehigh University

Spanier, Edward J. Adjunct Associate Professor of Chemistry; Vice President for Business and Finance; Treasurer B.A., 1959, La Salle College; Ph.D., 1964, University of Pennsylvania


Spicer, Karin-Leigh Associate Professor of Communication B.S., 1979, Ohio University; M.A., 1981, Wake Forest University; Ph.D., 1985, Ohio University


Srinivasan, Raghavan Associate Professor of Materials Science and Engineering B.Tech., 1978, Indian Institute of Technology, Madras (India); M.E., 1980, University of Florida; Ph.D., 1983, State University of New York at Stony Brook

Staley, Samuel R. Instructor of Economics B.A., 1984, Colby College; M.S., 1987, Wright State University

Steele-Johnson, Debra Assistant Professor of Psychology B.A., 1979, University of California at San Diego; Ph.D., 1988, University of Minnesota

Steinberg, James W. Associate Professor of Sociology, WSU–Lake Campus B.A., B.S., 1974, M.A., 1976, Mankato State University; Ph.D., 1988, Bowling Green State University

Stevenson, Brenda K. Assistant Professor of Nursing B.S.N., 1980, Wright State University; M.S., 1983, The Ohio State University; Ph.D., 1991, Case Western Reserve University

Stickney, Frank A. Professor of Management B.S., 1951, Boston University; M.B.A., 1955, Air Force Institute of Technology; Ph.D., 1969, The Ohio State University

Stoeckle, Mary L. Assistant Professor of Nursing B.S.N., 1979, College of Mount Saint Joseph; M.S.N., 1988, Ph.D., 1993, University of Cincinnati
FACULTY AND OFFICERS

Stoesz, Willis M. Associate Professor Emeritus of Religion and of Community Medicine B.A., 1955, University of Minnesota; M.Div., 1958, Union Theological Seminary; Ph.D., 1964, Columbia University

Strickland, Kenton Assistant Professor of Geological Sciences, WSU–Lake Campus B.S., 1967, M.S., 1971, Bowling Green State University

Strimpfel, Heidi Instructor B.S., B.A., 1984, Ohio Northern University; M.B.A., 1992, Wright State University, CPA

Stucki, David Assistant Professor of Computer Science and Engineering B.S., 1987, Wheaton College; M.S., 1989, Ph.D., 1994, The Ohio State University

Stuckman, Ralph E. Professor Emeritus of Education —WSU Lake Campus B.S., 1960, Bowling Green State University; M.A., 1963, University of Toledo; Ed.D., 1969, Ball State University

Sturm, Gerald P. Associate Professor of Education; Program Coordinator, Certification Adviser for Educational Personnel B.S., 1958, M.A., 1962, Central Michigan University; Ph.D., 1977, Michigan State University

Sudkamp, Thomas A. Associate Professor of Computer Science and Engineering B.S., 1974, University of Wisconsin at Madison; M.S., 1976, Ph.D., 1978, University of Notre Dame

Sumser, Robert M. Assistant Professor of History B.A., 1980, San Jose State University; M.A., 1984, Ph.D., 1989, University of California at Los Angeles

Svobodny, Thomas P. Assistant Professor of Mathematics and Statistics B.A., 1979, University of Chicago; Ph.D., 1987, University of Wisconsin at Madison

Swaney, James A. Professor of Economics B.S., 1971, M.S., 1972, Wright State University; Ph.D., 1979, Colorado State University

Swann, F. Richard Assistant Professor Emeritus of History B.A., 1952, University of Notre Dame; M.A., 1962, Xavier University; Ph.D., 1971, University of Cincinnati

Swanson, Donald R. Professor of English; Director of Graduate Studies in English B.A., 1953, Washington and Jefferson College; M.A., 1955, University of Connecticut; Ph.D., 1965, Rutgers University

Swart, Jane C. Professor of Nursing; Dean, School of Nursing B.S.N., 1959, D'Youville College; M.A., 1960, Teachers' College Columbia University; M.A., 1971, Ph.D., 1979, University of Washington

Sweeney, Robert J. Associate Professor of Finance; Chair, Department of Finance, Insurance, and Real Estate B.S., 1977, M.B.A., 1979, Wright State University; Ph.D., 1985, University of South Carolina

Swindell, David W. Assistant Professor of Urban Affairs and Geography B.A., 1988, University of Texas at Arlington; A.B.D., 1993, Indiana University, Bloomington

Swinger, Alice K. Professor Emerita of Education B.S., 1966, Miami University; M.S., 1970, Wright State University; Ph.D., 1975, The Ohio State University

Sylvester, Roger A. Instructor of Economics; Director, M.S. Program in Social and Applied Economics B.S., 1973, William Carey College; M.S., 1987, Wright State University


Tamburino, Louis A. Adjunct Research Associate Professor of Computer Science B.S., 1957, Carnegie-Mellon University; Ph.D., 1962, University of Pittsburgh

Taricone, Patrick F. Assistant Professor of Rehabilitation Counseling B.A., 1968, Morehead State University; M.Ed., 1980, University of Maryland; Ph.D., 1984, University of Northern Colorado


Taylor, Charles Benn Professor of Philosophy B.A., 1970, Marietta College; Ph.D., 1974, Boston College

Taylor, David L. Voluntary Assistant Professor of Microbiology and Immunology A.B., 1963, Wittenberg University; M.S., 1965, Ph.D., 1968, West Virginia University

Thirunarayan, Krishnaprasad Assistant Professor of Computer Science and Engineering B.T., 1982, Indian Institute of Technology (India); M.E., 1984, Indian Institute of Science (India); Ph.D., 1990, State University of New York at Stony Brook

Thobaben, Robert G. Professor Emeritus of Political Science B.S., 1948, Ohio University; M.A., 1962, Miami University; Ph.D., 1967, University of Cincinnati

Thomas, James W. Associate Professor of English B.S., 1969, University of Iowa; M.F.A., 1975, Bowling Green State University; Ph.D., 1983, University of Utah

Thomas, Joseph F. Jr. Professor of Mechanical Engineering and Materials Engineering; Dean, School of Graduate Studies and Associate Vice President for Research B.E.P., 1963, Cornell University; M.S., 1965, Ph.D., 1968, University of Illinois

Thomas, Scott K. Assistant Professor of Mechanical Engineering B.S., 1986, M.S., 1989, Wright State University; Ph.D., 1993, University of Dayton

Thornburg, Patricia D. Assistant Professor of Nursing B.S.N., 1969, University of Michigan; M.S., 1984, The Ohio State University; Ph.D., 1993, University of Cincinnati

Tiernan, Thomas O. Professor of Chemistry B.S., 1958, University of Windsor (Canada); M.S., 1960, Ph.D., 1966, Carnegie-Mellon University
Tipps, James Assistant Professor of Music  
B.S.M.E., 1977, Tennessee Technological University; M.S.T., 1985, Georgia Southern University; Ph.D., 1992, Florida State University 

Toman, Karel Professor Emeritus of Geological Sciences  
Dr. Tech., 1951, Technical University (Czechoslovakia); C.Sc., 1957, Dr.Sc., 1965, Czechoslovak Academy of Sciences (Czechoslovakia) 

Tomlin, James H. Assistant Professor of Education and Biological Sciences  
B.S.M.E., 1977, Tennessee Technological University; Ph.D., 1992, Temple University 

Traynor, Thomas L. Associate Professor of Economics  
B.A., 1983, College of St. Thomas; M.S., 1986, Ph.D., 1988, Purdue University 

Treacy, John J. Professor of Economics  
B.S., 1957, South Carolina University; Ph.D., 1963, Tulane University 

Trimble, Nancy S. Instructor of Nursing  
B.S.N., 1972, The Ohio State University; M.S.N., 1978, West Virginia University 

Tsang, Pamela Associate Professor of Psychology  
B.A., 1977, Mount Holyoke College; M.A., 1979, Ph.D., 1983, University of Illinois 

Turyn, Larry Associate Professor of Chemistry  
B.S., 1973, Ph.D., 1976, Heriot Watt University (Scotland) 

Turnbull, Kenneth Associate Professor of Chemistry  
B.S., 1973, Ph.D., 1976, Heriot Watt University (Scotland) 

Unruh, Raphael Professor of Geological Sciences  
M.S., 1957, School of Mining and Engineering (Poland); Ph.D., 1962, D.Sc., 1968, Jagiellonian University (Poland) 

Uphoff, James K. Professor of Education  

Vance, James T., Jr. Associate Professor of Mathematics  
B.S., 1973, North Carolina State University; Ph.D., 1980, University of Wisconsin 

Verney, Jeffrey A. Adjunct Professor of Education; Associate Director, Office of Disability Services  
B.A., 1973, St. Andrew’s Presbyterian College; M.S., 1979, Southern Illinois University 

Vice, Roy L. Assistant Professor of History  

Vito, Kimberly Assistant Professor of Art and Art History  
B.F.A., 1986, Miami University; M.F.A., 1988, Florida State University 

Vogel, John A. Instructor of Accountancy  
B.S.B., 1976, M.B.A., 1987, Wright State University; C.P.A. 

Vollertsen, Thomas J. Professor Emeritus of Management and Medicine in Society  
B.S., 1960, University of Dayton; M.B.A., 1961, Indiana University; Ph.D., 1968, The Ohio State University 

Voss, Daniel Associate Professor of Mathematics and Statistics  
B.S., 1979, University of Dayton; M.S., 1981, Ph.D., 1984, The Ohio State University 

Wachtel, Harvey M. Assistant Professor of History; Director, Graduate Studies in History  
B.A., 1961, Brooklyn College; M.A., 1963, Ph.D., 1971, University of Missouri 

Wade, Eugene W. Associate Professor Emeritus of Education  
A.B., 1953, M.Ed., 1958, Miami University; Ed.D., 1960, Indiana University 

Waggener, Herman A. Associate Professor Emeritus of Management  
B.A., 1941, Mississippi College; M.B.A., 1969, Wright State University 

Walker, James L. Professor of Political Science  
B.A., 1963, University of Santa Clara; M.A., 1964, Ph.D., 1974, University of California at Berkeley 

Walker, Suzanne Associate Professor of Dance  
B.A., 1967, B.S., 1969, Ball State University 

Warnen, Michael Instructor of English  
B.A., 1986, University of Kansas; M.F.A., 1988, University of Montana 

Watts, Lynne Instructor of English  
B.A., 1985, University of Dayton; M.A., 1993, Western Illinois University 

Weber, Daniel L. Associate Professor of Psychology  
B.A., 1973, Oberlin College; Ph.D., 1977, Harvard University 

Weber, Robert J. Associate Professor of Physical Medicine and Rehabilitation and Department Chair  
B.S., 1967, M.D., 1971, The Ohio State University 

Weinstein, Larry B. Instructor of Management Science  
B.S., 1985, University of Cincinnati; M.S., 1988, G.M.I. Engineering and Management Institute 

Weisman, Robert A. Professor of Biochemistry and Molecular Biology; Associate Dean, College of Science and Mathematics  
B.S., 1958, Union College; University; Ph.D., 1963, Massachusetts Institute of Technology 

Weiss, Isaac Professor of Materials Science and Engineering  
B.S., 1972, M.S., 1974, Technion, Israel Institute of Technology (Israel); Ph.D., 1978, McGill University 

Welty, Gordon A. Professor of Sociology  
B.A., 1965, University of Akron; M.A., 1968, Ph.D., 1975, University of Pittsburgh 

Wendt, Ann C. Associate Professor of Management  
B.S., 1977, M.S., 1980, Ph.D., 1987, University of Utah, SPHR 

Wetter, Eldon J. Assistant Professor of Geography  
W.S.U.-Lake Campus; 1967, University of Wisconsin at Platteville; M.A., 1969, The Ohio State University 

Wharton, Elizabeth Instructor of English  
Whately, Michele G. Professor of Biological Sciences and Department Chair B.S., 1977; Ph.D., 1980, Birmingham, U.K.
Whissen, Anne Associate Professor of German; Chair, Department of Modern Languages B.A., 1957, Miami University; M.A., 1961, University of Colorado
Whissen, Thomas R. Professor Emeritus of English B.A., 1955, Kent State University; M.A., 1963, University of Colorado; Ph.D., 1969, University of Cincinnati
Whiston, J. Alan Professor of Music and Department Chair B.S., 1959, M.S., 1966, University of Akron; Ph.D., 1987, University of Oklahoma
White, Mary Lou Professor Emerita of Education B.S., 1955, University of Akron; M.S., 1965, University of Wisconsin; Ph.D., 1972, The Ohio State University
White, Patricia K. Assistant Professor of Dance B.A., 1969, Manhattanville College; M.A., 1975, University of Illinois
White, Richard E. Assistant Professor of Physiology and Biophysics B.S., 1981, Emory University; Ph.D., 1987, Medical College of Georgia
Williams, Carol A. Wagner Assistant Professor of Rehabilitation Counseling B.S., 1972, University of Wisconsin–South; M.R.C., 1976, Bowling Green State University; M.A., 1986, The Ohio State University
Williams, Michael Associate Professor of Education B.A., 1970, M.A., 1971, Ph.D., 1980, University of Cincinnati
Williams, Richard E. Associate Professor of Finance; Associate Dean, College of Business and Administration B.S., 1964, Miami University; M.A., 1965, University of Florida; Ph.D., 1975, Michigan State University
Willis, Charles L. Professor Emeritus of Education B.S., 1954, M.S., 1957, Indiana State University; Ed.D., 1964, Indiana University
Wilson, Brenda A. Assistant Professor of Biochemistry and Molecular Biology B.A., 1981, Barnard College; M.S., 1988, Johns Hopkins University; Ph.D., 1989, Johns Hopkins University
Wilson, Warner R. Professor Emeritus of Psychology B.A., 1956, University of Chicago; M.A., 1958, University of Arkansas; Ph.D., 1960, Northwestern University
Winkeljohn, Dorothy R. Associate Professor Emerita of Education B.S., 1964, Saint Joseph’s College; M.S., 1969, Syracuse University; Ph.D., 1972, University of Kansas
Wise, Gordon L. Professor Emeritus of Marketing B.S., 1956; M.B.A., 1957, Miami University
Wolfe, John R. Adjunct Assistant Professor of Education, WSU–Lake Campus; Director of Learning Resource Center, WSU–Lake Campus A.A., 1975, Donnelly College; B.S., 1976, Benedictine College; M.S., 1978, Kansas State University; Ph.D., 1995, Bowling Green State University
Wolfe, Paul J. Professor of Physics and Geology B.S., 1960, M.S., 1963, Ph.D., 1966, Case Institute of Technology
Wood, David R. Associate Professor of Physics B.A., 1956, Friends University; M.S., 1958, University of Michigan; Ph.D., 1967, Purdue University
Wood, Timothy S. Associate Professor of Biological Sciences A.B., 1964, Earlham College; Ph.D., 1971, University of Colorado
Workman, Katherine J. Assistant Professor of History B.A., 1980, West Virginia University; M.A., 1982, Ph.D., 1989, Indiana University
Xu, Li D. Associate Professor of Management Information Systems B.S., 1978, M.S., 1981, University of Science and Technology of China; Ph.D., 1986, Portland State University
Xue, Kefu Associate Professor of Electrical Engineering B.S., 1977, M.S., 1980, Shangai Jiao Tong University; Ph.D., 1987, The Pennsylvania State University
Yen, Vincent C. Associate Professor of Management Science B.Sc., 1966, National Taiwan Normal University (Taiwan); M.A., 1969, University of Regina; Ph.D., 1975, The Ohio State University
Young, Joseph A. Associate Professor Emeritus of Education B.S., 1953, University of Dayton; M.Ed., 1961, Ed.D., 1971, Miami University
Yuan, Tsing Associate Professor of History B.A., 1960, M.A., 1962, George Washington University; Ph.D., 1969, University of Pennsylvania
Zambard, Joseph Professor of Anatomy and Department Chair; Director, Anatomical Gift Program B.S., 1954, M.S., 1956, University of Alabama; Ph.D., 1964, Tulane University
University Faculty Officers

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Richard Williams 1986–87
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Elizabeth Harden 1984–85
James Jacob 1983–84
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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 for 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 a 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) A person is subject to tax liability under section 5747.02 of the Revised Code;

(b) A person qualifies to vote in Ohio;

(c) A person is eligible to receive state welfare benefits;

(d) A person has an Ohio's driver's license and/or motor vehicle registration.

(2) Criteria evidencing lack of residency:

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

(b) If a person is a resident of or intends to be a resident of another state or nation for any purpose other than tax liability, voting, or receipt of welfare benefits (see paragraph (DX)(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 remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes 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 residents of Ohio for these purposes.

(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.
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 commencement of twelve consecutive months of residency, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding twelve consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident.

Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.

(5) Any reclassification of a person who was once classified as a resident for these purposes shall have prospective application only from the date of such reclassification.

(6) Any institution of higher education charged with reporting student enrollment to the Ohio Board of Regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of his or her Ohio residency for purposes of this rule. Such an institution may require the submission of affidavits and other documentary evidence which it may deem necessary to a full and complete determination under this rule.

Guidelines for Interpretation and Application of Ohio Board of Regents' Residency Rule 3333-1-10

1. Section (B)(1)
   a. A "twelve-month place or places of residency 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 in Ohio is not lost, therefore, by vacating 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 (G) as follows:
      "(1) 'Resident' means:
         (i) an individual who is domiciled in this state;
         (ii) 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 335 days of the taxable year outside this state."
      The essential reason for this requirement is to ensure that persons who do enjoy residency benefits also have such income as they have subjected to Ohio taxation.
      d. A person who has not "declared himself or herself to be or allowed himself or herself to remain" a resident of another state for "these and other purposes" shall mean one who does not retain an out-of-state driver's license, automobile registration, or voting residence, or who does not receive such things as loans or scholarships from another state when residency in that state is a prerequisite therefor. This total disavowal of residency in that other state must be for a full year's time before Ohio residency can be granted under this rule.

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)(3)
   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 residency 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 resident, if necessary, shall include any portion, up to twelve months, of the elapsed time between the date of application or 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 constitutes 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) of the law is to provide 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 dependant spouse and children of the full-time employed person are eligible for resident tuition rates immediately—provided that the move to Ohio was for the purpose of gaining favorable tuition rates, and that appropriate documentation is provided.

In accordance with the provisions of section (P)(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 the 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 subjected 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 guardians 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.
Notice to Students


The following notice is published as a public service for the student body. Federal regulations require annual notice to students on this subject.

Wright State University has for many years regulated access to student records. Federal regulations now apply in this area and are designed to protect the privacy of student records. The statute and regulations govern access to records, their release, and the rights of students to review and, if necessary, challenge information they believe to be inaccurate.

This notice, to be published annually, is a digest of these regulations. The full text is available for student examination in the Office of Student Development, the Office of the Registrar, the Affirmative Action Programs Office, and in most college offices. A more detailed digest of the act may also be found in the Student Handbook.

Under the act, "education records" means, with certain exceptions as listed below, those records, files, documents, or other materials related directly to a student and maintained by any unit of the university. The following categories of information are exempt and are not considered to be "education records": (a) records made by university personnel which are in the sole possession of the maker and are not revealed to any other person; (b) records maintained by campus security; and (c) medical and counseling records used solely for treatment. (Records pertaining to students, which are maintained by university offices, are official records, and as such, remain the property of Wright State University.)

Students may seek access to their records by submitting a written and dated request on forms provided by each office from which information is sought. The head of that unit will make the records available within forty-five days and give students the right to challenge any material contained therein on the basis of it being inaccurate, misleading, or inappropriate. The right to challenge grades does not apply under the act unless the grade was inaccurately recorded. Exceptions to the right to review records by students are as follows: (a) financial records of parents; (b) confidential letters and statements of recommendation made prior to January 1, 1975, and any other recommendations for which the student has voluntarily waived the right to access.

Wright State University does not maintain education records in any one central office. Records are maintained generally in the respective colleges and schools, the Offices of the Registrar, Student Development, University Placement Services, Admissions, Financial Aid, University Division, Veterans Affairs, Bursar, Athletics, Student Health Services, and Handicapped Student Services. Questions concerning the location of individual student records should be directed to the Office of Student Development or the registrar.

With specified exceptions, the university may release information in students' records to others if: (a) there is written consent from the student specifying the records to be released, the reasons for such release and to whom, and with a copy of the records provided to the student if desired by the student; or (b) such information is furnished to comply with judicial orders upon condition that the university make a reasonable attempt to notify the student in advance of compliance by the university.

Information identified as public information may be released to anyone without the student's written consent. This includes the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weights and heights of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student.

A student may request his/her name, address, and telephone number not be included in the public student directory by checking the appropriate box on the quarterly registration form. A student may request that public information, other than directory information, not be made public by signing, during the first week of classes each quarter, a request to withhold information, available in the Office of Student Development. The university will notify a student's hometown newspaper of outstanding academic achievement (e.g., if the student is named to the dean's list) if the student requests either of the above options.

Education records or personally identifiable information other than public information may be released without the written consent of the student to the following only: (a) other university officials who have legitimate educational interests; (b) officials of other schools in which the student intends to enroll, provided the student is informed of the record transfer, receives a copy of the record, if desired, and has an opportunity to challenge the content of the record; (c) authorized representatives of certain federal agencies, and education agencies, or state educational authorities under certain conditions; (d) in connection with a student's application for, or receipt of, financial aid; (e) state and local officials or authorities to whom information is specifically required to be reported or disclosed pursuant to the Ohio Revised Code adopted prior to November 19, 1974; (f) organizations conducting studies for, or on behalf of, educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction, if such studies are conducted in such a manner as will not permit the personal identification of students and their parents by persons other than representatives of such organizations and such information will be destroyed when no longer needed for the purpose for which it is conducted; (g) accrediting function; (h) parents of a dependent student as defined in section 152 of the Internal Revenue Code of 1957; (i) in connection with an emergency, appropriate persons may be advised if the knowledge of such information is necessary to protect the health and safety of the student or other persons; (j) in compliance with judicial order or pursuant to lawfully issued subpoena, upon condition a reasonable attempt to notify the student is made in advance of the compliance therewith.
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.

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, 224 Millett Hall, 513/873-3207.

The university’s Affirmative Action Plan is maintained in the Office of Affirmative Action Programs. Wright State is a public institution, and any member of the public may request a copy of the plan.

In addition, Wright State University is a national leader in accommodating the needs of students with disabilities. Any questions or comments concerning a needed accommodation may be directed to the director of Disability Services, 133 Student Services, 513/873-2141.

Mission

Wright State University is a comprehensive public university dedicated to advancing and disseminating knowledge through the pursuit of excellence in teaching, research, and professional service. Fundamental to the university mission and central to all disciplines are superior teaching and scholarly activity addressing basic questions and the needs of society. Professional service balances the commitment of the university through applied research, technical assistance, cultural activities, clinical services, consultation, and similar non-instructional activities and services.

Wright State is a metropolitan university. It is committed to providing leadership addressing the educational, social, and cultural needs of the Greater Miami Valley and to promoting the economic and technological development of the region through a strong program of basic and applied research and professional service. WSU Lake Campus, its regional branch campus, is committed to providing comprehensive two-year educational and community services to western Ohio.

Wright State desires to create an intellectually exciting community and encourages all students and faculty to strive for excellence. It attempts to foster a learning environment that nurtures innovative teaching and vital intellectual and personal relationships among students and teachers. It is committed to strong educational programs in the liberal arts and sciences as a foundation for all undergraduate degree programs. The university strives to develop fully the intellectual potential and aesthetic sensitivity of each student, including the skills of inquiry, reasoning, and expression.

Through its professional programs the university seeks to impart essential skills, competencies, and attitudes students need for successful careers today and tomorrow. While its educational programs convey knowledge from the past and present, the university aspires to educate students for the future. To that end, it undertakes to make all students aware of the importance of the international environment.

Wright State intends to achieve national prominence through excellence in selected program areas. The university emphasizes undergraduate education through a wide range of baccalaureate degree programs in the arts, humanities, social and natural sciences, and several professional fields. Master's, specialist, and doctoral degree programs are offered in selected fields. Wright State is committed to providing the opportunity for lifelong learning and professional development through programs for both degree and nondegree students.

As a state-assisted university, Wright State maintains an open admissions policy. It is also committed to enrolling outstanding traditional and nontraditional students and those bound by place, time, economic, or other personal constraints. The university emphasizes access and services to persons with disabilities. All programs and services are open to qualified persons without regard to race, religion, marital status, gender, age, economic status, ethnic origin, or political belief.
Wright State provides a broad range of support services for the achievement of its educational goals and the development of its students. It seeks to meet the needs of its diverse student population through flexibility in the type, availability, and delivery of these services.

Wright State aspires to be a community bound together for a common purpose on a campus that is functional, aesthetically pleasing, and truly accessible. The university seeks to promote a sense of community among students by involving them in educational, cultural, social, and athletic activities. This sense of community is further fostered by engaging faculty, staff, alumni, and friends in advancing the interests of the university and by observing high standards of social responsibility, including equal access to education, equal opportunity, and affirmative action.

Wright State adheres to the principle of participatory governance. The university defends academic freedom as important for intellectual inquiry and the development of ideas but recognizes that academic freedom imposes on individuals special obligations of accuracy, appropriate restraint, and respect for the rights and opinions of others.

Diversity Statement
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, 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 State Board 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 the American Assembly of Collegiate Schools of Business, art therapy by the American Art Therapy Association, 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 sciences by the National Accrediting Council for Environmental Health Curriculum, the National Environmental Health Association, 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, electrical engineering, engineering physics, human factors engineering, materials science and engineering, and mechanical engineering programs by the Accreditation Board for Engineering and Technology, the bachelor of science program in computer science by the Computing Sciences Accreditation Board, and the School of Nursing by the National League for Nursing and the Ohio Board of Nursing. In addition, the Bachelor of Science program in chemistry is certified by the American Chemical Society, and the Wright State University Lake Campus is accredited by the North Central Association of Colleges and Schools at the associate degree-granting level.

Wright State holds membership in numerous organizations, including the American Association of Colleges for Teacher Education, American Assembly of Collegiate Schools of Business, 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, the American Council on Education, the American Association of Colleges, the American Association of Colleges of Nursing, the Council of Baccalaureate and Higher Degree Programs of the National League for Nursing, and the Professional Engineers in Education.

Wright State participates in many kinds of cooperative ventures with local colleges, universities, and institutions. Through the Southwestern Ohio Council for Higher Education, Wright State students may take courses at member institutions and also take advantage of their library facilities. The School of Medicine has cooperative
arrangements with Central State and Miami Universities, and the School of Nursing offers its master's program in cooperation with Miami University. Both of these schools work closely with many area hospitals, long-term care facilities, and community health care systems. A graduate-level program in geology is offered in cooperation with Miami University and the University of Cincinnati. The Wright State University Lake Campus in conjunction with Lima Technical College and the Lima Branch Campus of The Ohio State University offers a joint program in law enforcement. Wright State's telecommunications department works with the University Regional Broadcasting Corporation, a joint program of Wright State, Central State, and Miami Universities. 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.
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A Allyn Hall
Allyn Hall Lounge (food service), 1st floor
Career Services
Mailboxes (student), 1st floor
Public Relations, 2nd floor
Public Safety Communication Center
(24 hrs.), 1st floor
School of Nursing, 4th floor
Student Health Services, basement
Student Information Systems, 3rd floor
AF Alumni Affairs/WSU Foundation
Building
Alumni Affairs
WSU Foundation and Development
BH Biological Sciences Building
BL Brehm Laboratory
CM Campus Ministry Center
CD Child Development Center
CP College Parks Apartments
CA Creative Arts Center
Box Office, Theatre, commons
Celebration Theatre, basement, theatre wing
Concert Hall, commons
University Art Galleries, 1st floor, art wing
Festival Playhouse, commons
Recital Hall, commons
F Fawcett Hall
FB Fine Arts Building
FL Forest Lane Apartments
Residence Services, 6 Palms
a. Aspen c. Sequoia
b. Palms d. Sycamore
FC Forest Lane Community Center
FW Frederick A. White Health Center
Pharmacy
Psychological Services Center, 2nd floor
G Garden for the Senses
(Clara E. Weisenborn)
H Hamilton Hall
Student residence hall
HCH Hawthorn/Cedar/Hickory
a. Hawthorn Hall
b. Hickory Hall
c. Cedar Hall
HS Health Sciences Building
School of Professional Psychology
L Library, Paul Laurence Dunbar
Wright Brothers Collection, 4th floor
LX Computer Services Library Annex
LJB Laurel/Jacob/Boston
d. Laurel Hall f. Boston Hall
e. Jacob Hall
LH Lowry House
MM Mathematical and Microbiological Sciences Building
MS Medical Sciences Building
Admissions, School of Medicine
Communications, School of Medicine
Fordham Health Sciences Library, School of Medicine
M Millett Hall
Bicycle Shop (food service), basement
Bolinga Cultural Resources Center, 1st floor
College of Education and Human Services, 3rd floor
College of Liberal Arts, 4th floor
Honors Program, 1st floor
Public Safety/Police, basement
NC Nutter Center, Ervin J.
Recreational facilities
Sports information
O Oelmann Hall
College of Science and Mathematics, 1st floor
School of Graduate Studies, 1st floor
OMP Oak/Maple/Pine
g. Oak Hall h. Maple Hall
i. Pine Hall
R Rike Hall
College of Business and Administration
RC Russ Engineering Center, Fritz and Doiiores
College of Engineering and Computer Science
SU Student Union
Administrative Offices and Facilities:
Atrium
Arcade
Billiards Room
Bookstore
Box Office
Conferences and Continuing Education
Convenience Store
Dark Room
Dining Room
Dining Services Office
Faculty Dining Room
Food Court
Formal Lounge
Gallery
Information Center
Meeting and conference rooms
Rathskeller (lounge)
Recreation Desk
Student Union Administrative Office
Study Lounge
Television Lounge
Upper Hearth Lounge
Wright-Patt Credit Union
Athletic Facilities:
Aerobics Room
Fitness Center
Locker Rooms (Reserve and General)
Pool
Small Gymnasium
Squash and Racquetball Courts
Campus Activities and Orientation Suite:
Orientation
Student Organizations and Leadership Development (S.O.L.D.)
Tours
Wright Volunteer Program
Student Media Suite:
The Guardian, student newspaper
Nexus, student literary magazine
Student media coordinator
WWSU-FM, radio station
Student Organizations
Black Student Union
Greek Suite
Inter-Club Council
Lambda Union
Ombudsperson
Student Government
Student organization meeting rooms
Residential Community Association
Union Activities Board
Student Services and Other Offices
Adult and Transfer Services
Bursar/Fee payment
Bolinga Cultural Resources Center
Campus Parking and Transit
Disability Services
Financial Aid
ID Services
International Student Programs
Intramural Recreation
Registrar
Undergraduate Admissions
University Division
Advising of freshmen
Tutoring
Veterans Affairs
Word Processing
TV Television Center
TS Transportation Services Center
V The Village