1987-1989 Wright State University Undergraduate Course Catalog

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Wright State University Bulletin

1987/89 Undergraduate Catalog

Dayton, Ohio
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In order to make current academic information available to students, new course descriptions and changes in academic policies and programs that have been made since the publication of this bulletin will be printed in the quarterly class schedules.

The course descriptions included in this catalog represent the entire range of undergraduate courses offered at Wright State (for graduate courses, see the Graduate Catalog). However, not all courses are available every quarter or every year. For a listing of the specific courses offered in a particular quarter, students should consult the quarterly class schedule.

Questions concerning admission to the university or questions about academic programs should be directed to the Office of Admissions, Wright State University, Dayton, Ohio 45435; telephone 513/873-2211.

This catalog was prepared by the Office of University Communications, Wright State University, Dayton, Ohio.

### Academic Calendar 1987/89

**Fall Quarter September 14-December 5, 1987**
- September 16, Wednesday/classes begin
- November 11, Wednesday/Veterans Day holiday
- November 25, Wednesday/classes end
- November 26-29, Thursday-Sunday/Thanksgiving holiday
- November 30-December 5, Monday-Saturday/final examinations
- December 5, Saturday/Fall Commencement

**Winter Quarter January 4-March 19, 1988**
- January 4, Monday/classes begin
- January 18, Monday/Martin Luther King Day holiday
- March 12, Saturday/classes end
- March 14-19, Monday-Saturday/final examinations

**Spring Quarter March 28-June 11, 1988**
- March 28, Monday/classes begin
- May 30, Monday/Memorial Day holiday
- June 4, Saturday/classes end
- June 6-11, Monday-Saturday/final examinations
- June 11, Saturday/Spring Commencement

**Summer Quarter June 13-August 18, 1988**
- June 13, Monday/Terms A and C classes begin
- July 4, Monday/Independence Day holiday
- July 14, Thursday/Term A classes end
- July 18, Monday/Term B classes begin
- August 18, Thursday/Terms B and C classes end
Fall Quarter September 12-December 3, 1988

September 14, Wednesday/classes begin
November 11, Friday/Veterans Day holiday
November 23, Wednesday/classes end
November 24-27, Thursday-Sunday/Thanksgiving holiday
November 28-December 3, Monday-Saturday/final examinations
December 3, Saturday/Fall Commencement

Winter Quarter January 3-March 18, 1989

January 3, Tuesday/classes begin
January 16, Monday/Martin Luther King Day holiday
March 13, Monday/classes end
March 14-18, Tuesday-Saturday/final examinations
(Monday late afternoon and evening exams will be held on Friday, March 17. Some weekday exams will be held on Saturday, March 18.)

Spring Quarter March 27-June 10, 1989

March 27, Monday/classes begin
May 29, Monday/Memorial Day holiday
June 3, Saturday/classes end
June 5-10, Monday-Saturday/final examinations
June 10, Saturday/Spring Commencement

Summer Quarter June 12-August 17, 1989

June 12, Monday/Terms A and C classes begin
July 4, Tuesday/Independence Day holiday
July 13, Thursday/Term A classes end
July 17, Monday/Term B classes begin
August 17, Thursday/Terms B and C classes end
Course Abbreviations

Specific courses in curriculum outlines and lists of degree requirements are indicated by the following abbreviations for the areas of study:

ACC  Accountancy
AES  Aerospace Science
ANT  Anatomy
ATH  Anthropology
ART  Art and Art History
AED  Art Education
AT  Art Therapy
AVI  Aviation
BCH  Biological Chemistry
BIO  Biological Sciences
BME  Biomedical Engineering
CHM  Chemistry
CHI  Chinese
CLS  Classics
COM  Communication
CPL  Comparative Literature
CST  Comparative Studies
CSE  Comparative Studies
CEG  Computer Engineering
CS  Computer Science
CPE  Cooperative Education
CNL  Counseling
DAN  Dance
DN  Danish
EC  Economics
ED  Education
ESE  Electrical Systems Engineering
EGR  Engineering
ENG  English
EH  Environmental Health
ENV  Environmental Studies
FIN  Finance
FR  French
GEO  Geography
GL  Geological Sciences
GER  German
GR  Greek
HPR  Health, Physical Education, and Recreation
HST  History
ITA  Italian

JPN  Japanese
LAT  Latin
LAW  Law
LA  Liberal Arts
LCS  Library and Communication Science
LI  Linguistics
MGT  Management
MIS  Management Information Systems
MS  Management Science
MKT  Marketing
MTH  Mathematics
MSE  Mechanical Systems Engineering
MT  Medical Technology
M&I  Microbiology and Immunology
MIL  Military Science
ML  Modern Language Humanities
TH  Motion Pictures
MUS  Music
NUR  Nursing
OA  Office Administration
PHR  Pharmacology
PHL  Philosophy
PHY  Physics
P&B  Physiology and Biophysics
POL  Polish
PLS  Political Science
POR  Portuguese
PSY  Psychology
RST  Regional Studies
RSE  Regional Studies
RHB  Rehabilitation
REL  Religion
RUS  Russian
SW  Social Work
SOC  Sociology
SPN  Spanish
STT  Statistics
SS  Study Skills
TH  Theatre
UD  University Division
UH  University Honors
URS  Urban Affairs
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. Unclassified students may, with the approval of the department offering the course, register for undergraduate credit in courses numbered 700-799.

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.
History

Wright State University is a fully accredited state-assisted university, offering to a student population of nearly 17,000 more than a hundred undergraduate majors, twenty-seven master’s degree programs, and programs of study for the M.D., Psy.D., Ed.S., and Ph.D. degrees, as well as certification programs. We’ve reached this state in our growth just twenty-three years after opening our doors in 1964 as the Dayton Campus of the Miami and The Ohio State Universities. These schools had been offering classes in borrowed facilities in our area for many years, giving rise in the 1950s to the idea of a joint branch campus. A community fundraising effort in 1961 generated three million dollars, which financed the purchase of our 645-acre campus near Dayton, Ohio, and the construction of Allyn Hall, our first building.

In 1965, we became Ohio’s twelfth state-assisted university, known as the Wright State Campus. A major turning point was reached in October 1967, when we became an independent state institution. Wright State University was then recognized as fully accredited and autonomous. In a few short years, we had grown from a faculty of fifty-five and a student population of 3,200 to a university with 5,000 students registered in ninety-six different programs and concentrations, master’s degree programs in five disciplines, and 206 faculty members. Three new buildings had been constructed, completing Founders Quadrangle in the center of campus.

Since that time, our history has continued to be characterized by growth and change. The residence hall opened in 1970, followed by the completion of the University Center and the president’s house in 1971. In 1973, we celebrated the openings of the Creative Arts Center, the University Library, the Physical Education Building, and the Brehm Laboratory. Facilities for the biological sciences were completed in 1975 and 1976, and the Medical Sciences Building was dedicated in 1976. New offices, bringing together student services in one central location, were completed in 1977.

The creation of the Wright State University
School of Medicine in 1974 marked our first professional doctorate and indicated our commitment to providing resources for primary health care. The first class of medical doctors graduated in 1980.

In 1977, we received authorization to establish a School of Professional Psychology, and planning approval was granted for a Ph.D. program in biomedical sciences. Both programs admitted their first students in 1979. The School of Engineering, operating within what was then the College of Science and Engineering, was approved by the Board of Trustees in 1984.

In 1981, construction was completed on Rike Hall, housing the College of Business and Administration, and the Frederick A. White Center, which is both a teaching facility and a center for health care services. Our newest buildings are the Health Sciences Building, which houses the School of Professional Psychology and animal laboratories, and the Engineering and Mathematical Sciences Building. Construction is planned within the Miami Valley Research Park for the National Center for Rehabilitation Engineering.

Since our beginning in 1964, we have continually expanded and responded to community needs. We have grown from a branch campus to a fully independent, comprehensive university with programs of study leading to baccalaureate, graduate, and professional degrees. Through the Colleges of Business and Administration, Education and Human Services, Continuing and Community Education, Liberal Arts, Engineering and Computer Science, and Science and Mathematics; the Schools of Graduate Studies, Medicine, Nursing, and Professional Psychology; and our branch campuses, we offer a fully balanced university program, committed to excellence and community service.

Student Body

Our students don’t fall easily into any one category. To give a general idea about them, we rely on studies and statistics gathered from different areas of the university.

The majority of our students are undergraduates—more than 12,000, most of whom come from southwestern Ohio. We also have students from other parts of Ohio, from almost every other state in the nation, and from approximately forty-five nations outside the United States.

Most of our students are commuters. About ninety-six percent regularly travel to campus for their classes. Many of our full-time undergraduate students live at home; others live in off-campus rooms and apartments. University housing accommodates approximately 600 students—312 in Hamilton Hall and 278 in two- and four-person partially furnished apartments. Housing is also available adjacent to the campus.

Some of our students are slightly older than those at most other campuses. About a fourth are under twenty-one and twenty-six percent are over thirty; the median age is twenty-six. A 1986 study indicated that fifty percent of our students are male and fifty percent female, and seventy percent of our students are single.

A number of students with disabilities have chosen us because of our excellent facilities and support services. About two percent of our student population are people with a disability.

Academically, we find that Wright State students represent the entire spectrum of the scale, according to national ACT results. The ACT profile also indicates that the average of high school grades for our freshmen is 3.01 on a 4.0 scale, with twenty-three percent of them falling between 3.5 and 4.0.

For students who want it, the opportunities are good for close contact with faculty. The size of classes at Wright State varies from large lecture sessions to small classes and seminars. About seventy percent of our classes have enrollments between five and forty.

About eighty percent of our full-time faculty hold terminal degrees in their fields and many also bring valuable professional experience to the classroom. In addition to their teaching responsibilities, many faculty members conduct active research programs. The faculty includes about 626 full-time and about 250 part-time members.

As a state-assisted university, we have an open enrollment policy for undergraduate students, which means we accept Ohio residents who have graduated from an accredited high school, or who have passed a high school equivalency test, at the earliest possible time we can accommodate the applicant.
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.

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 preference, 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.
Degrees and Areas of Study

We offer undergraduate programs in the Colleges of Business and Administration, Education and Human Services, Liberal Arts, Engineering and Computer Science, and Science and Mathematics; the School of Nursing; 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 and the College of Engineering and Computer Science offer professional and post-baccalaureate programs.

Noncredit courses are available through the College of Continuing and Community Education and some credit courses are offered at Wright State University extensions.

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 Business (B.S.B.), Bachelor of Science in Computer Engineering (B.S.C.E.), Bachelor of Science in Education (B.S.Ed.), Bachelor of Science in Engineering (B.S.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.). Following are brief descriptions of the colleges and schools, and the fields of study in which Wright State offers course work leading to a baccalaureate degree.

College of Business and Administration

Bachelor of Science in Business degree programs are offered with majors in accountancy, business economics, finance, financial services, management, management information systems, management science, and marketing. Programs may include internships and co-op opportunities.

The fields of study leading to a baccalaureate degree in Business and Administration follow:
Accountancy (B.S.B.)
Business Economics (B.S.B.)
Finance (B.S.B.)
Financial Services (B.S.B.)
Management (B.S.B.)
Management Information Systems (B.S.B.)
Management Science (B.S.B.)
Marketing (B.S.B.)

College of Education and Human Services

Basically 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, rehabilitation, and art therapy. The college awards the Bachelor of Science in Education and Bachelor of Science degrees.

The fields of study leading to a baccalaureate degree in Education and Human Services follow:
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.)
Drama/Theatre Education (B.S.Ed.)
Earth Science Education (B.S.Ed.)
Elementary Education (B.S.Ed.)
English Education (B.S.Ed.)
History Education (B.S.Ed.)
Humanities Comprehensive Education (B.S.Ed.)
Languages Education K-12 (B.S.Ed.)
Library Media K-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 Education (B.S.)
Science Comprehensive Education (B.S.Ed.)
Social Studies Comprehensive Education (B.S.Ed.)
Special Education (Developmentally Handicapped; Moderately, Severely, and Profoundly Retarded; Specific Learning Disabilities) (B.S.Ed.)
Visual Arts Education (B.S.Ed.)
Vocational Business Education (B.S.Ed.)

Second Teaching Fields Only

Bookkeeping/Basic Business Education
Drama/Theatre Education
Economics Education
General Science Education
Geography Education
Health Education
Latin Education
Library Media Education
Physical Education
Political Science Education
Psychology/Sociology Education
Sales Education
Speech/Communication Education
Stenography and Typing Education
College of Liberal Arts

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. In addition, departments within the college offer specific courses that meet the university's General Education requirements. These general studies allow students to view a wide variety of subjects at an introductory level before they choose and prepare for their careers.

The fields of study leading to a baccalaureate degree in Liberal Arts follow.

- Acting (B.F.A.)
- Anthropology (B.A.)
- Applied Music (B. Mus.)
- 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.)
- 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 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 Arts Management (B.F.A.)
- Theatre Design/Technology (B.F.A.)
- Theatre Studies (B.A.)
- Urban Affairs (B.A., B.S.)

*Dual major

College of Science and Mathematics

Primarily discipline oriented, 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. General Education courses in the sciences are offered by various departments.

The college also offers Master's degrees as well as an interdisciplinary Ph.D. program, namely in biomedical sciences.

The fields of study leading to a baccalaureate degree in Science and Mathematics follow.

- Biological Sciences (B.S., B.A.)
- Chemistry (B.S., B.A.)
- Environmental Health (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.)
College of Engineering and Computer Science

The college offers programs leading to the Bachelor of Science, Bachelor of Science in Engineering, Bachelor of Science in Computer Engineering, and the Bachelor of Arts degrees. Programs of study include computer science, systems engineering/electrical or mechanical option; biomedical engineering; human factors engineering; computer engineering; materials science and engineering; and engineering physics. Each of the programs includes cooperative education opportunities.

The fields of study leading to a baccalaureate degree in the college follow.
Biomedical Engineering (B.S.E.)
Computer Engineering (B.S.C.E.)
Computer Science (B.S., B.A.)
Electrical Systems Engineering (B.S.E)
Engineering Physics (B.S.E.)
Human Factors Engineering (B.S.E.)
Materials Science and Engineering (B.S.E.)
Mechanical Systems Engineering (B.S.E.)

Wright State University-Miami Valley School of Nursing

To meet community needs, the School of Nursing offers a nursing program designed to give students the knowledge and skills to fulfill the health care needs of people. The program leads to the Bachelor of Science in Nursing degree which qualifies the graduate for the State Board Test Pool examination required for state licensure as an R.N. The School also offers a B.S.N. completion program for registered nurses and a Master of Science program.

The field of study leading to a baccalaureate degree in Nursing follows.
Nursing (B.S.N.)

Minors

The university offers minors in the following areas:
Anthropology
Business
Classical Humanities
Communication
French
Geography
German
Health Science
History
Mathematics
Modern Languages
Music
Political Science
Religion
Spanish
Statistics

A minor program at Wright State University is a structured and coherent secondary concentration of study. It is intended to allow undergraduates the option of presenting a second field of specialization in addition to a major as part of their studies at the university. Please confer with the appropriate department for details.

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. There is strong competition for admission to medical or dental schools, and students should have realistic career alternatives in case they are not admitted to the professional program of their choice.

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

The Premedical Advisory Committee functions to assist 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 Curricula

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

BIO 111 Principles of Biology: Ecology
BIO 112 Principles of Biology: Genetics and Evolution
BIO 114 Organismic Biology
CHM 121 Submicroscopic Chemistry
CHM 122 Macroscopic Chemistry
CHM 141 Quantitative Chemistry
CHM 211, 212, 213 Organic Chemistry I, II, III
CHM 215, 216, 217 Organic Chemistry Laboratory I, II, III
ENG 101, 102 Composition
One year (three courses) of college-level math, including one course in college algebra and one course in trigonometry, is required.

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

**Prelaw Study**

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

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

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

**Suggested Undergraduate Curricula**

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

- ACC 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 and Unions
- EC 454 Economics of Collective Bargaining
- ENG 240 Intermediate Composition
- FIN 301, 302 Business Finance
- FIN 303 Case Problems in Financial Management
- FIN 332 Real Estate Law
- FIN 462 Retirement and Estate Planning
- LAW 350 The Legal Environment of Business
- LAW 360 Legal Aspects of Business Organizations
- LAW 370 Legal Aspects of Commercial Transactions
- LAW 480 Special Topics in Law
- PHL 115 Inductive Logic
- PHL 123 Deductive Logic
- PHL 124 Social Ethics and Values
- PHL 311 Ethics
- PHL 371 Business Ethics
- PHL 472 Philosophy of Social Science
- PLS 340 Law and Society
- PLS 399 Mock Trial
- PLS 440 Constitutional Law
- PLS 441 Civil Liberties
- PLS 442 The American Criminal Justice System
- PLS 443 Administrative Law Procedure
- PLS 471 International Law
- REL 419 Ethics in an Industrial Society: The Responsibility of Business in Society
- URS 399 Studies in Selected Subjects--Urban Law

### The School of Graduate Studies

The graduate school is responsible for twenty-seven master's degree programs, a post-master's degree (Educational Specialist), the Doctor of Philosophy degree in biomedical sciences, and the Doctor of Philosophy degree in Computer Science and Engineering, as well as courses for certification programs in education, Teaching English to Speakers of Other Languages (TESOL), cartography, photogrammetry, and remote sensing; and archival and historical administration. Degrees may be earned in the following fields of graduate study.

**Master's Degree Programs**

- **Master of Arts**
  - Applied behavioral science, classroom teacher counseling and guidance, educational leadership, English, history, selected graduate studies, student personnel services

- **Master of Art Therapy**

- **Master of Business Administration**
  - Accountancy, finance, financial administration, health care management, logistics management, management, management science, marketing

- **Master of Education**
  - Classroom teacher, educational leadership, student personnel services

- **Master of Humanities**
Master of Music
Music education

Master of Rehabilitation Counseling

Master of Science
Aerospace medicine, biology, chemistry, computer science, counseling and guidance, geological sciences, logistics management, mathematics, nursing, physics, selected graduate studies, social and applied economics, systems engineering

Master of Science in Computer Engineering

Master of Science in Teaching
Earth science, physics

Post-Master's Degree Program

Educational Specialist

Doctoral Degree Programs

Doctor of Philosophy
Biomedical Sciences
Computer Science and Engineering

The School of Medicine
The medical school's goal is to provide professional education for future primary care physicians. Graduates of this four-year doctoral program receive the Doctor of Medicine (M.D.) degree.

The School of Professional Psychology
The school offers a doctoral program that prepares men and women for work as professional psychologists. The program requires approximately four years of study and grants the Doctor of Psychology (Psy.D.) degree.

The College of Continuing and Community Education
A wide variety of noncredit courses is offered at the Eugene W. Kettering Center in downtown Dayton, on the main campus, and at several off-campus locations. These courses are designed to meet the needs of different groups of people such as professionals, homemakers, elderly persons, and others interested in lifelong learning. Noncredit courses may be taken without going through the university's formal admissions process.

Through its Saturday Enrichment programs, the college provides an opportunity for children in kindergarten through eighth grade to explore and develop their special talents and interests. The Community Music Division of the Department of Music offers noncredit classes for Wright State students and Dayton area residents.

The college also cooperates with other academic colleges and departments on the main campus to offer special credit courses and workshops.
The Wright State University
Lake Campus

Located on the shore of Grand Lake St. Marys between Celina and St. Marys, Wright State's Lake Campus serves Van Wert, Mercer, and Auglaize counties. Its day and evening classes are mostly lower division with a limited number of upper division and graduate courses available. There are also programs leading to two-year associate degrees. The prebaccalaureate 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, are offered.

In addition, an associate degree in law enforcement technology is offered through a cooperative program with Lima Technical College.

Alternative Academic Programs

In addition to conventional degree programs and classroom experiences, we also offer some innovative alternatives for undergraduate study.

Most of our departments offer independent study, and off-campus education is prevalent in professional programs. In the College of Education and Human Services, off-campus participation ranges from observing to student teaching, and in the College of Business and Administration, internships and class projects bring students in contact with local business and industrial firms. Students in nursing, social work, and other areas have direct contact with many outside agencies.

The university accepts the recommendation made by the American Council on Education in "The 1980 Guide to the Evaluation of Educational Experiences in the Armed Services" for transfer credit earned by attending military school.

Students can obtain credit by examination, which makes it possible for them to get college credit for courses available at the university by passing an examination offered by the appropriate department. Students must be registered and have completed at least one course at Wright State in order to receive credit by examination.

Many specific programs provide different ways to approach college education.

Cooperative Education

Cooperative education programs, available through various departments, offer students the opportunity to alternate on-campus study with full-time or part-time educationally related work experience. Cooperative jobs are found by the university and job placements are monitored by the Cooperative Education staff and/or faculty. Academic credit for work experience may be earned in some departments. In other departments, students are required to register for Cooperative Education courses.

Through the co-op 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.

Co-op students participate in a university-sponsored educational program. During the work portion of their co-op program, registered co-op students are considered full-time students at Wright State.

Students interested in the optional co-op program are advised to make plans as early in their academic careers as possible. The Cooperative Education staff is available to help students apply to the program and to offer suggestions about planning and scheduling.

Student Exchange Programs

Wright State students may participate in exchange programs with Japan, Brazil, and China. Each summer the university engages in month-long exchange programs with the Okayama University of Science in Okayama, Japan, the Federal and Catholic Universities of Paraná, Brazil in Curitiba, and Beijing Normal University in China. Each exchange provides an excellent opportunity to learn about the host country's culture through classroom experiences, side trips, and a stay with a host family. A campus employment program allows students to work during the academic year to earn the money to pay for the exchange program.

For further information about the international student exchange programs with Japan, China, and Brazil, contact the International Exchange Program in Student Development.
Study Abroad

Study abroad programs are sponsored from time to time by academic departments. Information may be obtained by contacting individual departments and by watching for promotional materials. The University Library has a number of catalogs available from universities around the world.

Interdisciplinary Study

Interdisciplinary study provides the opportunity to explore different areas or to tailor a major to students’ interests. Many courses are offered jointly by cooperating departments. Students can also combine work in two different departments for a 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.

Honors

The University Honors Program offers students many opportunities to develop their intellectual interests. Small class size facilitates discussion, close contact between students and faculty members, flexibility, and independent thought. For specific information about the honors program and application requirements, see the chapter on Academic Standards and Requirements.

The honors program also provides avenues for students to develop their intellectual interests through participation in the Student Honors Association, the honors publication *Chimaera*, and state and national honors organizations.

Expanding Horizons Programs

Adult Services

Expanding Horizons offers its services to adults from all walks of life: women and men, middle-aged and senior citizens, those who are employed and unemployed, people making career changes, homemakers, and retirees. The program is designed to assist any adult with defining an educational goal and developing strategies for attaining that goal. The services include entry counseling, ongoing academic and personal support, assistance in setting career and life goals, introductory course work for General Education credit, special courses addressing issues confronting returning adult students, and special programs to help adult students become oriented to the university.

Expanding Horizons serves adults aged twenty-five or older who are returning to the university academic setting to complete an old degree or to start a different academic program as well as those who are coming to college for the first time. The supportive environment of the courses and activities increases the likelihood of success for these students. Through the program, they develop their skills as students and establish a network of support that will help them meet the challenge of attaining their educational goals while maintaining their other nonacademic commitments.

Classes are small and are taught by instructors who appreciate and encourage the contributions of adult students. Beginning course work with peers who are also beginning or returning to college helps ease the transition back into the university. The course requirements and fees for enrollment are the same as those for regular undergraduate course work.

Courses are scheduled during the day, the evenings, and on the weekends to accommodate adult students’ full schedules. Enrollment in classes is limited to fifteen students and requires the permission of the Expanding Horizons staff.

Children’s Learning Lab

Expanding Horizons Children’s Learning Lab offers an educational opportunity for children aged five to fourteen whose parents are enrolled in classes at Wright State University. The learning lab features diverse courses, from performing arts to natural sciences. Children are encouraged to develop their own special abilities and interests in a nongraded, noncompetitive educational environment.

Classes are offered four evenings a week, Monday through Thursday, from 4 to 10 pm, at the main campus of Wright State University. The one-time registration fee, for one evening per week for the entire ten-week term, is $15, payable in the Bursar’s Office upon completion of the child’s registration. The dinner hour will be supervised by the learning lab staff.

For more information and questions regarding course offerings and registration materials, contact the Expanding Horizons Office, 513/873-2101, 124 Student Services.

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 students’ tuition, buys all books, and provides $100/month. Students involved in the Advanced or Professional Officer course would also receive $100/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 facilitate participation in the ROTC program for freshmen and sophomores, or for
The University Library plays a most important role in students' learning experience, as well as in research and teaching. The University Library's collection contains over 380,000 bound volumes, 729,474 microforms, 160,000 U.S. and Ohio documents, and 4,724 periodical subscriptions.

The library's Department of Archives and Special Collections houses one of the most complete depositories of information on the Wright brothers in the world. The Wright State collection of about 6,000 historical items includes manuscripts and records, a library of books that influenced the Wright brothers, technical journals that covered their progress, family papers, awards, and over 3,600 prints made by Orville and Wilbur Wright from their own negatives.

The archives also contain many other important collections such as the papers of James M. Cox, records of the Miami Conservancy District. Special collections include a collection of materials on aviation history, local and regional history and rare children's books illustrated by Arthur Rackham.

Students and the general public who need access to maps can make use of the national map depository in the University Library. The map depository collection includes approximately 55,000 geological and topographical maps from all over the United States.

Computer Services

Computer services for the academic community are provided by the Research and Instruction Computation Center (RICC) and Administrative Computing Services (ACS). RICC provides the specialized and general purpose computing software and hardware needed to support the instructional and research activities of the university. ACS provides computing support to administrative offices throughout the university and provides services for the major mainframe computer on campus that provides a general computing resource to all areas of the university.

The main computing equipment is an IBM 3083B and a VAX/780. Other computing resources are located in various academic departments throughout campus, including several large laboratory facilities equipped with microcomputers. Numerous software packages are available for general use. Information and guidance on hardware and software in support of faculty and students is available in the RICC. Information on the general hardware and software, along with services for administrative users, is available in ACS. Offices of the RICC and ACS, as well as the major computing equipment on campus, are located in the basement of the library.

junior and seniors who will be enrolling in 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 techniques and management concepts 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. Students in the advanced course (cadets) are paid $100/month during the regular school year. During the summer quarter between the junior and senior years, they attend a six-week ROTC Advanced Camp which provides them with the opportunity to apply the leadership and technical training received in the classroom. While at camp, cadets are paid half of the salary appropriate to the grade of 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 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 is four or six weeks long and is normally attended between the sophomore and junior years. It emphasizes Air Force careers and leadership development.

Further information is available in the Departments of Military Science and Aerospace Studies.
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 area colleges and universities. 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 adviser's consent, and the course isn't offered at Wright State. Students 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.

Resources for Special Interests

The Bolinga Center opened on January 15, 1971, as a tribute to the memory of Dr. Martin Luther King, Jr. The word "Bolinga" means love in Lingala, an African language, and the Center promotes cultural pluralism on campus through programs, lectures, and seminars. The Center's programs consist of a minority scholars speakers series, community speakers series, and film series. Moreover, it has two important resources: the Paul Laurence Dunbar Library, a collection of over 3,000 books and periodicals relating to the African and African-American experience, and the Peer Supportive Services Program, a program of tutoring and counseling services.

The College of Continuing and Community Education, in the Eugene W. Kettering Center in downtown Dayton, offers continuing education programs emphasizing areas beyond those covered by existing degree programs. Professional training in engineering, science, and management for members of the industrial-scientific community is also provided.

In 1977, the university was given national recognition for programs and activities in arts for people with disabilities. Because of our progressive programs in art therapy, the National Committee, Arts for the Handicapped, Washington D.C., selected Wright State as a national model site and a national resource center. In 1982, a Center for Arts for the Disabled and Handicapped Person was formed and is located in the Creative Arts Center. Wright State continues to hold national prominence in programs and activities in the arts for all people.

The Organizational Services Group (OSG) provides valuable information and services both to the university community and to the community at large. It is composed of four different centers: Consumer and Business Research, Economic Education, Professional Development, and Small Business Assistance.
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 by the National Accrediting Council for Environmental Health Curricula of 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 systems engineering, computer engineering, computer science, and materials science and engineering programs by the Accreditation Board for Engineering and Technology, and the School of Nursing by the National League for Nursing and the Ohio State Board of Nursing Education and Nurse Registration. 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, and the Council of Baccalaureate and Higher Degree Programs of the National League for Nursing.

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. A graduate-level program in geology is offered in cooperation with Miami University and the University of Cincinnati. The Wright State University Lake Campus offers programs and courses in conjunction with Lima Technical College and the Lima Branch Campus of The Ohio State University. 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, Antioch College, United Theological Seminary, and the University of Dayton.
Student Services

In addition to classes and academic programs, there’s much more to discover at a university. Wright State has many services, facilities, and activities to give students the opportunity to enjoy all the benefits of university life. Many people are here to serve students, answer their questions, and help them over any rough spots that might occur.

Wright State’s student services are a coordinated group of offices including Admissions, Financial Aid, Student Development, Student Housing, Student Employment, University Placement Services, Handicapped Student Services, Veterans Affairs, Student Health Services, Student Information Systems, Student Activities, and the Bookstore.

Other student-centered areas and activities include the University Center, the Hamilton Hall and Forest Lane Apartments housing facilities, intercollegiate athletics, intramural sports, and open recreation programs. The Psychological Services Center, located in the Frederick A. White Center, offers personal counseling and seminars.

Student Services Offices

The student services offices are staffed by professionals who are equipped to help the student population in particular areas. Most of these services are free and students are invited to visit the offices any time.

Services for Disabled Students

Extending the opportunities of higher education to people with disabilities is a high priority at Wright State. We rank as a leader in adapted physical facilities, and campus buildings have been designed to be free of architectural barriers. Ramps and ground-level entrances lead to each building and all buildings have adapted restrooms and elevator access to every floor. An underground tunnel system links most campus buildings. Handicapped Student Services promotes the realization of each student’s potential by offering services in physical, academic, personal, and/or vocational areas. These services are provided on the basis of individual need, allowing learning-disabled and physically disabled students to pursue college educations.

Physical support services are designed to enable each student to be as independent as possible and include personal attendant care for dressing and hygiene needs; adapted transportation for disabled commuter students; adapted campus parking; assistance in locating adapted off-campus housing; training in activities of daily living to achieve a greater degree of independence; campus mobility orientation for visually impaired students; and adapted athletics, intramural sports, and recreational programs.

The academic support services are designed to assist physically and learning disabled students in meeting all academic requirements. These include the tape library services and the provision of taped textbooks for students who have visual impairment or a learning disability; test proctoring for students who need reading and writing assistance and/or extra time to complete a test; and academic aids that accommodate individuals with disabilities in meeting class requirements.

The vocational program assists students in making realistic occupational choices. Opportunities exist in the planning and development of a career, and there are services designed to provide experience at various employment sites. These methods allow students to make a realistic decision about future careers and ensure that they are able to meet the demands of the occupation.

Applicants requiring services available for disabled students are strongly encouraged to contact Handicapped Student Services prior to admission to make arrangements for the necessary services well in advance of enrollment.

Student Development

The Office of Student Development provides general information and growth opportunities to students and student organizations through a number of programs. New student orientation introduces students to the university and its programs and services through workshops on numerous topics, campus tours, and small group participation.
The **Student Handbook**, available in the Office of Student Development, is an excellent guide on how to make the best use of Wright State's services and facilities. Written by the Student Development staff, the **Student Handbook** outlines helpful information and lists all the university policies and procedures that govern students. The University Information Center in Allyn Hall answers questions on the spot and can refer students to the appropriate university offices for detailed answers to involved questions.

The Student Development staff also advises student organizations, supervises expenditures from the student activities fund, and is involved in developing policies concerning students. A special Student Development Program provides opportunities to develop leadership and communication skills through weekend experiential workshops offered once per quarter.

International students attending Wright State can find answers to their questions by consulting with the international student adviser, who is a member of the Student Development staff.

On-campus communication is aided by assigning each student who attends classes on the main campus a campus mailbox in the Allyn Hall student lounge. Most official university correspondence is placed in these mailboxes. Students are assigned mailboxes in the fall and keep the same mailbox throughout the year unless they fail to register early for winter or spring quarter.

### Placement Services

Assessing themselves and devising a career plan can help students get the most out of their college education. University Placement Services involves students and alumni in the process of career choice, and assists them in finding both full-time and part-time positions.

Through workshops, academic courses, cooperative education experiences, career counseling, and occupational testing, the department helps students explore and evaluate factors important to their career planning, such as their potential abilities, skills, interests, values, needs, and priorities. These planning services, supported by an extensive career library, can help students make decisions and find methods to explore the world of work.

Placement services help students develop their career paths through cooperative education experiences and summer and part-time work, and assist seniors, graduate students, and alumni in finding full-time positions.

It's to students' advantage to visit the University Placement Services department during their freshman or sophomore year to begin planning for their career and to learn more about the special services available to them throughout their academic program. Juniors, seniors, and graduate students are advised to register for placement services.

### Pre-Professional Planning

For students wishing to pursue a career in law, medicine, or other professional or graduate field, the Office of Pre-Professional Advising provides a central source of information. The office maintains a reference library of catalogs for law, medical, and graduate schools and advises students interested in preparing for any of these careers. Each year the office sponsors programs in conjunction with many different law and medical schools and schedules visits by school representatives.

### Psychological Services

Personal growth, as well as intellectual development, is an important part of students' university experience. The Psychological Services Center staff helps students learn to integrate their academic and personal lives through a variety of experiences. Recognizing the need for life skills development, the center offers individual and group counseling in such areas as increasing self-esteem, assertiveness training, human sexuality, decision making, and adapting to change. Services are also available to assist students in coping with stress as it relates to school, work, family, and personal life situations. Test anxiety, fear of failure, changing values, and uncertainty about future plans are some of the commonly presented concerns.

Students who are interested in these programs or who have other personal concerns may call the Psychological Services Center for an appointment or may visit the center Monday through Friday from 8:30 am to noon and from 1 to 5 pm. All counseling services are confidential and are available to students without charge. The offices are located on the second floor of the Frederick A. White Center.

### Veterans Affairs

Veterans who are seeking a degree and who attend school either full time or part time may be entitled to specific benefits. The Veterans Affairs office on campus can help veterans take full advantage of their educational benefits.

### Medical Care

Medical care is available to students in the health clinic in Allyn Hall. Personnel are on duty to handle emergencies during normal working hours, Monday through Friday. Students needing follow-up care will be referred to the Frederick A. White Center. Student health insurance may cover some of the expense of this subsequent medical care. Student Health Services also sponsors preventive health care programs for the university community, such as flu shots and hypertension testing, and community services including visits from the Community Blood Center.
Public Safety

The Department of Public Safety is the official law enforcement agency for the university campus. Information or complaints concerning any emergency or criminal activity should be reported immediately to the Public Safety communication center at campus telephone extension 2111.

Public Safety is also responsible for the campus lost and found. Anyone losing or finding an article should notify the Office of Parking Services. Articles are held for ninety days and, if not claimed, are sold at an auction.

Parking Services

The Office of Parking Services establishes and regulates the procedures for parking on campus. Parking on the main campus is provided in the general parking zones at no charge to students, faculty, and staff. Drivers do not need a permit to park in general parking zones.

Drivers do need a permit from the Office of Parking Services to park in A (reserved), B (student staff, assistants, teaching assistants), car pool, D (dorm), F (faculty), H (handicapped), R (Forest Lane Apartments resident), S (staff), and U (university vehicle) zones.

People with disabilities may obtain H permits at no charge. Applicants must register with Handicapped Student Services before applying for an H permit at the Office of Parking Services.

Hamilton Hall residents may obtain D permits and Forest Lane Apartments residents may obtain R permits at no charge. Applicants must show resident ID cards, vehicle registration, and quarterly validation cards when applying for D and R permits.

All people driving a motorized vehicle to campus are responsible for complying with the Wright State University Motor Vehicle regulations. Complete motor vehicle regulations and information concerning permits are available from the Office of Parking Services.

Academic Services

University Division

The University Division provides placement testing, academic advising, and developmental academic support services for new freshmen, both degree and nondegree. In addition, the Division's University Testing Services administers university-authorized standardized testing for a variety of purposes to both undergraduates and graduates.

Placement Testing

During each registration period, the University Division conducts placement testing in mathematics, reading, and writing for selected students new to the university. Results of these tests help identify present skill levels and aid in selecting appropriate courses for initial enrollment.

Academic Advising

Academic advisers assist students assigned to the University Division with scheduling and academic problems. Advisers help degree-seeking students meet their university General Education requirements and the admission requirements of their selected major. Advisers also teach a Freshman Seminar that helps provide an overview of some of the aspects of being students in higher education.

Developmental Education

The Developmental Education program provides free tutoring for undergraduate students in all freshman-level courses. It offers instruction in study strategies, reading improvement, critical reading, fundamental English skills, and basic mathematics for students who need to improve their skills in these areas before taking college-level courses. Students taking fundamental English and/or reading improvement courses are scheduled to spend at least one hour per week in the writing and reading centers. The program also provides a special adviser to help students with specific academic needs.

The Special Services Program for Academically Underprepared Students makes it possible for students who are not prepared for college work, either because of inappropriate choices in high school or because of gaps in educational experience, to take additional developmental courses during the fall and winter quarters. These courses include a survey of biology, chemistry, or geology; psychology concepts; critical reading; and career exploration.

In addition, the services of a counselor and a staff of peer facilitators are available to enhance psychological adjustment to college life.
For four weeks each summer the Developmental Education program conducts Wright Start for high school students in the Miami Valley who are considering higher education. Wright State students may participate in the program as a means of reviewing or previewing course work. Wright Start is free to all who participate.

University Testing Services
The University Division's University Testing Services administers university placement exams, coordinates dissemination of information about undergraduate departmental proficiency exams and/or credit by evaluation, and administers a variety of national standardized exams approved by the university for undergraduates and graduates.

Facilities

University Center
A good place to meet and talk with students, staff, and faculty is the University Center, which includes a cafeteria, private dining rooms, lounges, game rooms, box office, a rathskeller, a computer center, a faculty dining room and lounge, and bookstore. The student-run University Center Board (UCB) schedules seminars, workshops, exhibits, guest speakers, artists, dances, tournaments, and recreation at the center. The facility can also be used for public activities on request. The Office of University and Community Events, which facilitates available to provide consultation on planning and coordinating special functions.

The University Center Hollow Tree Box Office, managed by the Student Activities Office, handles tickets for both university and community events.

The Student Activities Office, on the lower level of the center, serves as a resource to members of the university community in planning a wide range of community-related functions. The office also provides information about various types of entertainment and sponsors the Madrigal Dinner and the College Bowl tournament.

The University Bookstore, owned and operated by the university, is located on the lower level of the center. It stocks textbooks and tradebooks used in Wright State classes as well as a variety of other books, supplies, and gift items. The bookstore also buys and sells used books each quarter.

Student Housing
Students wishing to experience residential life on campus have the opportunity to live in one of three campus communities: Hamilton Hall, Forest Lane Apartments, or the Woods.

Hamilton Hall provides air-conditioned residence hall accommodations for 312 students; most are housed in double occupancy rooms, the remainder in triples. Single rooms are not available. Floor lounges, a recreation room, a computer room, laundry facilities, vending machines, a large-screen television, and other amenities are provided for use by the residents. Hamilton Hall residents are required to purchase a food service plan.

The Forest Lane Apartments provide apartment-style accommodations for 278 students. The majority of apartments are two-bedroom units that house four students; the remaining units are studio apartments that house two upperclass returning students. All apartments are air conditioned and fully furnished. Utilities are included. The community is equipped with a laundry facility and a community center including a multipurpose area and a large-screen television room. Forest Lane residents may purchase a meal plan if they choose.

The Woods is a series of privately owned residence halls directly adjacent to campus. The accommodations are suite style with four students per suite. Each room features a microwave oven, refrigerator, sink, wall-to-wall carpeting, drapes, and loft-style furniture. Air conditioning and hookups for cable television and telephone are provided. Each building in the Woods features floor lounges and laundry facilities. Woods residents may purchase one of the optional meal plans if they so desire.

For those students unable to obtain on-campus housing, the Housing Office offers several services to assist students in obtaining off-campus living arrangements.

Only those students who have been admitted to Wright State will be considered for campus housing. For more information concerning student housing, contact the Housing office at 513/873-4172.

Certain minimum academic standards are required of students who live in university-owned housing. All undergraduate students are expected to complete a minimum of thirty credit hours per year and maintain at least a 2.0 grade point average. Graduate students are expected to complete twenty credit hours per year.

Food Service
Wright State University, in conjunction with a contracted vendor, provides several food service operations throughout the campus. A cafeteria, The Wright Place; a rathskeller; a faculty dining room; and a faculty lounge are all located in the University Center. A fast food operation, the Bicycle Shop, is located in the basement of Millett Hall, and a snack shop is available in Allyn Hall lounge. Due to the many locations, a wide variety of food and services are made available to Wright State students.

In addition to à la carte items being available at all locations, the food service offers several quarterly meal plan options to students and staff, allowing them to use various facilities throughout the campus. Some residential students are required to purchase one of the meal plan options.

Additional information can be obtained by writing or calling Dining Services, located in the University Center, at 513/873-2478.
Extracurricular Activities

Sports
The university offers a broad program of both intercollegiate and intramural sports for men and women. After competing as an NCAA Division II institution for the first eighteen years of the athletic program, the university will move to Division I status in the fall of 1987. Students have the opportunity to participate either as members of the athletic teams or as spectators. At the same time, athletics serves as a major link between the university and the surrounding community.

The university sponsors eight varsity sports for men and seven for women. Full-time students in good academic standing can try out for any of the varsity teams. Men's sports include baseball, basketball, cross country, golf, soccer, swimming, tennis, and wrestling. Women's sports include basketball, cross country, soccer, softball, swimming, tennis, and volleyball.

While the move to Division I presents a new level of challenges for the athletic program, the university has enjoyed tremendous success at the Division II level. The men's basketball program has been among the most successful in the country over the last ten years, advancing to the regional tournament seven times and winning the national championship in 1983. The baseball and volleyball teams have both received NCAA regional tournament bids, while the men's and women's swim teams and the wrestling squad have finished in the top ten at the Division II national championships.

Intercollegiate wheelchair athletics provides sports for students who use wheelchairs. Basketball is the major team wheelchair sport with competition available on a regional, national, and international basis. The team competes in the Central Intercollegiate Conference, the only intercollegiate conference for student athletes with disabilities. The university also sponsors competition in track and field and swimming.

Grant-in-aid money is available in varying amounts for each sport. For more information about grant-in-aid money, contact the coach of the respective sport.

Completed in 1973, the Physical Education Building is the center of the athletic department. The building includes a main arena that seats 2,750 spectators, an auxiliary gymnasium, a natatorium, wrestling room, training and weight facilities, as well as locker rooms and the department of intercollegiate athletics offices. The building served as the site of four NCAA tournaments during the 1985-86 season, as well as the 1985 Division II national wrestling championships.

In the fall of 1989, the department will be moving to a new home, the Ervin J. Nutter Center. A main arena that will seat more than 10,000 spectators for basketball will be the focus of the new center. In addition to intercollegiate athletic events, the arena will be designed to accommodate convocation and concerts. The university has received a $4 million appropriation from the state of Ohio and $1.5 million donation from Ervin J. Nutter, an area business leader and board of trustee member, to provide the major funding for the $22 million facility.

Intramural activity is a stressed portion of the athletic department, which sponsors teams in touch football, basketball, indoor soccer, wrestling, volleyball, and softball, and individual activities in racquetball, golf, tennis, archery, table tennis, and handball. There are also open recreation periods when any student may use the physical education facilities.

Adapted athletics introduces students who cannot take part in regular intramurals to a variety of recreational activities through an instructional approach. Rules and equipment are modified and activities such as archery, aquatics, billiards, bowling, and squash, as well as individualized therapy programs, are taught.
Music

The Department of Music instrumental and choral ensembles provide students an opportunity to develop their musical talent, broaden their education, and make new friends. Ensembles are composed of students with various majors from many departments; students need not be music majors to participate. Participation may be on a credit or noncredit basis. Some ensembles, however, require an audition. Most groups present one concert a quarter on campus as well as occasional off-campus performances.

There are two choral ensembles and a vocal jazz ensemble. The University Chamber Singers (between sixteen and twenty-four members) perform a variety of music from the Renaissance to the twentieth century. The University Chorus (seventy to ninety members) performs major choral works from all periods. They have performed with the Dayton Philharmonic Orchestra and with the Wright State University/Community Orchestra. Various phases of American jazz from the Big Band Era to the present are sung by the Vocal Jazz Ensemble, a highly select group of six to ten singers who perform on campus and within the greater Dayton Community.

The department’s orchestral ensembles include the Wright State University/Community Orchestra and the University Chamber Orchestra. The University/Community Orchestra, with approximately seventy-five members, annually presents “Concerto Night,” featuring student soloists selected by audition. The University Chamber Orchestra is composed of select string, wind, and percussion performers from the university and the community.

The University Symphony Band and the University Concert Band rehearse Monday, Wednesday, and Friday from noon to 12:50 pm. Instruments are available, and no audition is required for the Concert Band. The University Jazz Ensemble plays early swing and jazz through contemporary progressive jazz. Other instrumental groups include the University/Community Trombone Ensemble, Brass Choir, and other ensembles that are formed depending upon interest, enrollment, and faculty availability.

Students and residents of the Dayton area have a variety of opportunities for musical growth and exploration in the noncredit Community Music Division of the Department of Music. A ten-week program of noncredit classes and private lessons is given each quarter.

Private lessons are available in most orchestral instruments, as well as classical guitar, folk guitar, organ, and voice. These lessons are taught by university faculty, faculty associates, Community Music Division faculty, and selected university students majoring in music. Students must provide their own instruments. Private lessons are scheduled by the teacher in consultation with the student, at a time that is mutually acceptable.
Organizations and Activities

Many opportunities for extracurricular involvement exist through participation in student organizations, clubs, and activities. Departmental clubs allow students to delve into a particular area of study or career field, and several academic departments sponsor honoraries. Twelve chapters of Greek letter fraternities and sororities offer service, social activities, and friendship. Sports, religious, and special-interest clubs provide many avenues for students to explore their interests with a group.

Inter-Club Council

Inter-Club Council (ICC) is made up of representatives from the various student organizations on campus. Any student organization registered with the Office of Student Development can be a member of ICC. ICC's purposes are to develop cooperative campus activities and to provide communication among the different student groups. Each year ICC sponsors October Daze, Raider Daze, and May Daze, which give member organizations a chance to have money-making projects.

Media

For students who wish to put their creative talent to work, there are several student media outlets on campus. The student newspaper, The Daily Guardian, which utilizes editors, writers, proofreaders, salespeople, and photographers, is published four times a week during the academic year. The magazine Nexus comes out three times a year and includes writing and original art work from members of the university community. Chimaera, issued once each year by the University Honors Program, features a wide range of undergraduate writing; essays, book reviews, research papers, poetry, and short fiction are invited for consideration. Students can also work on and off the air at WWSU, the student-run campus radio station. WSU Cablevision, a student-run cable station, provides classroom training and experience in video production as well as programming for cablecasting throughout the Dayton area.

Cultural Activities

Many cultural opportunities on campus allow students to both see and participate in the performing arts. The Department of Music presents many concerts and recitals by student and faculty soloists and choral and instrumental groups. University Theatre presents six major productions, several one-act plays, and at least one children's theatre production during the academic year. The theatre department has also offered a motion picture series and the University Center Board sponsors many current popular films, mini-concerts, recreational and special events. The University Art Galleries regularly schedule exhibitions and events, both in the Main Gallery and the Experimental Gallery. The University Artist Series brings nationally known artists to the campus several times a year, and the Contemporary Lecture Series attracts popular guest speakers who focus on a particular theme chosen for each season.

Government

The Student Government is an elected representative student assembly that officially acts on behalf of the student body. Student Government members represent the students through Academic Council and on major committees of the council. Student Government consists of ten students: five from the undergraduate colleges; one each from the School of Nursing, School of Medicine, School of Graduate Studies, and School of Professional Psychology; and one at-large member who serves as chair.

The Academic Council is the major decision-making body of the university, consisting of representatives from the faculty, administration, and Student Government. It deals with academic regulations, curriculum changes, and other university-wide policies.

Students who don't know where to take a grievance, problem, or suggestion can go to the Office of the Ombudsman, 192 Allyn Hall. The ombudsman provides accurate information about the university, investigates and tries to resolve student problems, and makes students' concerns known to the faculty and administration.
Admission, Registration, and Fees
Three offices at the university that students will probably have a lot of contact with are the Offices of Admissions, the Registrar, and Financial Aid.

The staff of the admissions office assists prospective and returning students by providing information about the university, its academic programs, and undergraduate admissions.

Staff members also help students complete the application for admission. The office arranges individual and group tours of the campus and can make appointments for students to talk with faculty or advisers in the academic areas in which they're interested.

Included among the duties of the Office of the Registrar are registering students in classes and assessing fees, processing class withdrawals, obtaining fee refunds, accepting applications for graduation, processing grade reports, and issuing academic transcripts to students who request them.

The Office of Financial Aid helps students who have difficulty in meeting the costs of a college education. Although we feel students and students’ families are primarily responsible for financing a college education, we realize there are many reasons their financial resources may be limited.

To assist students who have established financial need, the university offers scholarships, grants-in-aid, loans, and employment. For applications for the various types of financial assistance, contact the Office of Financial Aid.

Admission

Ohio students who have graduated from an accredited high school or who have passed a high school equivalency test (GED) are automatically eligible to enter Wright State University. Out-of-state students, however, besides meeting regular admission requirements, must present evidence of above-average ability to do college work (a 2.0 overall high school grade point average).

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 new college preparatory curriculum policy. The policy applies to the admission of undergraduate baccalaureate degree students who enter the university fall quarter, 1987, and thereafter.

The university requires students to have a high school record that is consistent with 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 graduating 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>Requirement</th>
<th>Removal of Deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>four units</td>
<td>Pass ENG 101*</td>
</tr>
<tr>
<td>Mathematics</td>
<td>three units (including Algebra I and II)**</td>
<td>Pass MTH 127*</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>three units (including two units in history)</td>
<td>Complete the General Education requirement in Western Civilization. A one-term course removes up to one unit of deficiency.</td>
</tr>
<tr>
<td>Science</td>
<td>three units</td>
<td>Complete the General Education requirement in natural sciences. One four-credit lecture/lab removes up to one unit of deficiency.</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>two units (in the same foreign or classical language through level II)**</td>
<td>Pass courses through the 103 level or demonstrate proficiency by examination.</td>
</tr>
<tr>
<td>Arts</td>
<td>one unit</td>
<td>Complete the General Education requirement in Fine and Performing Arts.</td>
</tr>
</tbody>
</table>

*Initial enrollment in English and mathematics courses will be determined by placement testing. See the section on Placement Testing/New Undergraduates below.

**Algebra I and Foreign Language I may be taken in eighth grade.

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.

Degree-Seeking Students

Freshmen

For students beginning college work at Wright State with the intention of earning a degree, the procedures for applying are simple. First, students should get an application form from the Office of Admissions, complete it, and return it with the nonrefundable $25 application fee. Then they should have their high school counselor send a transcript of their grades and the College Preparation Curriculum Completion form to Wright State.

National test scores are not a requirement for admission. Students must, however, have either the American College Testing Service score (ACT) or the Scholastic Aptitude Test score (SAT) on file with the University Division before they register for classes.
Placement Testing/New Undergraduates

During each registration period, the University Division conducts placement testing in mathematics, reading, and writing for undergraduate students new to the university.

Mathematics

All students preparing to enroll for their first mathematics course are required to take a mathematics placement examination to determine course enrollment. Transfer students who have earned, within the last year, college-level credit in mathematics at a grade of C or above do not need to take the exam.

Reading and Writing

Beginning degree-seeking freshmen also are required to take reading and writing placement examinations, or have a score of 16 or above on the American College Test (ACT) or 360 or above on the Scholastic Aptitude Test (SAT). Transfer students who have earned, within the last year, college-level credit in English composition at a grade of C or above do not need to take the exam.

A placement test schedule is available in the Office of Admissions, 127 Student Services.

Transfer Degree Students

Students who have registered for one or more courses at another college are considered transfer students. To apply for admission, prospective students need to complete the application and return it to the Office of Admissions with the nonrefundable $25 application fee. They must have an official transcript from each college in which they've been registered sent to the Office of Admissions. Graduates from high school in 1987 or after who have less than forty-five quarter hours of transfer credit must also submit a high school transcript or GED scores and the College Preparation Curriculum Completion form. All transfer students interested in the School of Nursing who are not already RNs are required to submit a high school transcript.

All transfer students with at least a C average are eligible for admission to the university; admission to some colleges and schools requires a higher grade point average. Students who do not meet the grade point average criterion must petition for admission. This petition process involves completing both the application form and the petition form (available from the Office of Admissions) plus submitting the nonrefundable $25 application fee and the required transcripts as indicated in the preceding paragraph. Students who have been suspended from another institution will normally 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, an Ohio state-assisted institution of higher education, 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 ten years before their admission to Wright State, students' advisers will determine if the credits are still applicable to their degree.

6. If students have completed three-fourths or more of the Wright State quarterly credit hour requirement for a course or sequence, they may receive credit for that course or sequence. For example, two 3.0 credit hour courses in English composition may be considered the equivalent of ENG 101 and 102 (eight credit hours).

7. Wright State academic advisers 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. If students have earned twenty-four quarter credit hours or less of transfer credit, they will be assigned to the University Division (the freshman advising office) for advising. If students have earned more than twenty-four hours, the Office of Admissions will notify them of their admission to the University Division or the appropriate college or school.

9. General education requirements for most transfer students will be determined by a course-by-course evaluation. Through the fall quarter of 1989, students who transfer to Wright State University with forty-five or more quarter hours will have the option of satisfying either the new General Education requirements or those in force prior to the fall of 1987. For specific exceptions that apply in the School of Nursing, see the appropriate section of this catalog.

10. The university will accept a minimum of ninety credit hours for an associate degree from a regionally accredited (see Transfer Credit Regulation number 1) junior or community college. Also, credit is usually given for all academic college credit hours above ninety 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 adviser will determine how many credits 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.

International Students

Wright State welcomes applications from qualified international applicants. About 230 students on F-1 and J-1 student visas currently attend the university. Application materials are available at the Office of Admissions. Applications for admission must be completed three months before the quarter in which applicants wish to begin studies at Wright State if they live outside the United States; applications must be completed two months before the quarter in which applicants wish to begin studies at Wright State if they live within the United States.

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. Graduate applicants must have earned a baccalaureate degree or its equivalent from a college, university, or other institution of higher learning. Only an official transcript, translated into English, will be accepted as evidence of academic preparation. If applicants' credentials cannot be evaluated by the Office of Admissions, they will be required to submit their credentials to an evaluation service and pay the cost of the evaluation.

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. Non-native English-speaking students will also be tested in English upon arrival at Wright State and 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. If students are being sponsored, the financial statement form must be
accompanied by an affidavit of support and a bank statement provided by their sponsor, indicating the amount of money available to them for the purpose of studying at Wright State University. If students are financing their education from personal funds, they must also submit a bank statement together with the financial statement. Bank statements are to be sent by the bank directly to the admissions office. International students, once admitted, may be required to deposit with the university a full year's tuition before they will be permitted to enroll in classes.

4 A Form I-20 or IAP-66 will be issued by the international student adviser when students have met the above requirements and have been admitted to the university.

5 International students already in the United States who wish to transfer from another university will not be considered for admission if they are not currently in status according to the Department of Immigration and Naturalization. Transfer students must also present evidence of above-average ability to do college work.

All international students should take the reading, writing, and mathematics placement examinations before enrolling for their first quarter of classes. Contact the Office of Admissions for further placement testing information.

Other Admission and Enrollment Categories

Nondegree Undergraduate Students

Students who want to take courses at Wright State but who don't 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). In order to take junior- or senior-level courses offered by the College of Business and Administration, students must have junior standing in addition to the stated prerequisites.

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 $15 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.

For information about nondegree status for graduate students, see the Graduate Catalog.

Teacher Certification Candidates

College graduates who would like to become certified as teachers must apply for admission, file all the necessary credentials, and pay the application fee. We recommend that students meet with a teacher certification adviser when they apply, to have their records evaluated and to plan their program.

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. High school seniors must rank in the top twenty-five percent of their class or have a 3.0 overall grade point average. Juniors must rank in the top ten percent of their class or have a 3.5 grade point average. To participate, students must be recommended by their principal or counselor and present written permission from their parent or guardian. High school students who plan to continue at Wright State begin as degree students; those who plan to continue their education elsewhere begin as nondegree students. Under certain circumstances, high school freshmen and sophomores may be eligible to enter the university under this program. Students who would like to know more about this program can contact the Office of Admissions.

Returning Students

Students who have not attended Wright State for four or more quarters must apply for readmission through the Office of 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 remaining out of school for four quarters; see the section on Readmission in chapter 4.

Students who have not attended Wright State for five years (twenty quarters) may wish to take advantage of the Fresh Start Rule. This rule may allow students to have their earlier grade point average recalculated. Contact the Office of Admissions for more information.

Continuing Students

Once enrolled for an academic quarter, students are eligible to re-enroll for the following four quarters and to be regarded as continuing students if they meet minimum academic standards. Students not receiving a registration form prior to the beginning of the registration period for an upcoming quarter should contact the Registrar's Office.
Registration

Wright State is on the quarter system. The academic year is divided into three quarters (fall, winter, and spring) and a summer session (two five-week terms or one ten-week term). Classes are assigned values in quarter credit hours. The credit hour is based on fifty 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. The general rule for time expenditure is that students should plan to spend at least two hours in outside preparation for each hour they spend in class. Students should carefully plan their academic program with an adviser, 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 twelve credit hours per quarter with the average between fourteen and seventeen credit hours. The normal full-time load during each five-week summer term is between six and nine credit hours.

For students who are employed full time, we recommend that they register for no more than six quarter hours, or two courses, during the regular academic year and for just one course at a time during the summer.

Registration dates are announced in the quarterly schedule of classes. Currently registered students receive their registration forms in their campus mailboxes, located in the lounge of Allyn Hall. Students who are not currently registered, but who have been registered any time during the past year, receive their registration forms in the mail.

There are three different registration periods. For students taking advantage of the early registration period, there is a specific deadline for paying fees. That deadline date is published in the quarterly class schedule. If students don’t pay by the deadline, their registration will be canceled to make room for students who register later. During open registration students must pay fees at the time they register. Late registration allows students to register during the first week of classes; there is an additional fee for late registration. Students cannot register after the first week unless they have the permission of the instructor, department chair, and the school or college dean. No one may register after the second week of the quarter.

To make a change in their registration, students must first submit a Change of Program form to the Office of the Registrar and pay the appropriate fee. There is no fee for adding courses or for withdrawing from all classes at any time. No fee is charged if students make changes before the second week of class or its summer session equivalent. See the quarterly class schedule for the exact day.

Students may drop a course or withdraw from the university without grades through the third week of the quarter, or its equivalent. These courses won’t be recorded on transcripts. From the fourth through eighth weeks, or their equivalents, students may drop a course or withdraw, but the course and a designation of “W” will appear on their record. Please see the quarterly class schedule for the exact dates. After the withdrawal date, students need to petition to drop; otherwise, the course will appear on their record with a grade.
### Fee Schedule

<table>
<thead>
<tr>
<th>Quarterly Fees for Undergraduate Students</th>
<th>Main Campus</th>
<th>WSU Lake Campus</th>
<th>WSU Extension Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 10.5 hours/per hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional and general fees</td>
<td>$60</td>
<td>$54</td>
<td>$51</td>
</tr>
<tr>
<td>Nonresident tuition/add to above</td>
<td>60</td>
<td>60</td>
<td>51</td>
</tr>
<tr>
<td>Total: Ohio resident</td>
<td>$60</td>
<td>$54</td>
<td>$51</td>
</tr>
<tr>
<td>Total: Nonresident</td>
<td>120</td>
<td>114</td>
<td>102</td>
</tr>
<tr>
<td>11 through 18 hours*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional fee</td>
<td>$506</td>
<td>$506</td>
<td></td>
</tr>
<tr>
<td>General fee</td>
<td>126</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Nonresident tuition/add to above</td>
<td>632</td>
<td>632</td>
<td></td>
</tr>
<tr>
<td>Total: Ohio resident</td>
<td>$632</td>
<td>$567</td>
<td></td>
</tr>
<tr>
<td>Total: Nonresident</td>
<td>1,264</td>
<td>1,199</td>
<td></td>
</tr>
</tbody>
</table>

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

### Additional Fees and Charges

- Late registration fee: $25
- Nondegree application fee: $10
- Application fee to change from nondegree to degree student: $15
- Audit fee/per credit hour (laboratory and special courses not open to audit): same as for credit courses
- Drop fee/per transaction: $10
- Fee for courses under Educational Benefits Policy/per credit hour: $12
- Cooperative Education quarterly fee for noncredit: $50
- Transcript fee/first request: $3
- Each additional at same time: $1
- Undergraduate and graduate degree and certification application fee: $25
- Returned check penalty/per check: $15
- Applied music fee
  - one half-hour lesson per week: $55
  - one hour lesson per week: 110
- Proficiency test/per credit hour: $10
- Graduation fee: $25
- International student fee: $40
- Student installment plan application fee: $15
- Student installment plan late charge/per payment: $15
Admission, Registration, and Fees

The Educational Benefits Policy applies only to undergraduate and master's level course work. Some courses may require additional fees to cover travel, individual instruction, or materials; check the course descriptions in this catalog and the departmental offices.

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, Wright State University Lake Campus, and Wright State University extension courses are those in effect when this catalog went to press. For an up-to-date list, consult the Office of the Registrar.

Library fines are set by the university librarian with the approval of the president.

Fees

Paying Fees

The method for paying fees depends on which registration period is used. See the previous section on registration for a description of the different registration periods.

Students will find fee payment deadlines for each registration period in the university calendar published in the quarterly schedule of classes. Students who register early and 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. Students who register during the open registration period must pay all fees and charges at the same time they register.

Students are encouraged to pay fees by check or money order, made payable to Wright State University and sent to the attention of the bursar. The check or money order should be written for the exact amount due. Incorrect checks will be returned, and registration will proceed on schedule if a new check or money order for the correct amount is received by the published deadline date for the payment of fees.

Students also may use either MasterCard or VISA credit cards to charge most fees paid to the university. In order to use a credit card, students must either be the cardholder or have the cardholder's authorization. All charge transactions are subject to approval by the financial institution that issued the credit card.

Students have the option of using the Student Installment Payment Plan (SIPP) to spread quarterly fees for tuition, insurance, and university housing (if applicable) over a three-month period. The plan is offered as an alternative to the single payment for fees that is normally due at the beginning of fall, winter, and spring quarters. SIPP is not offered during the summer quarter. For a $15 nonrefundable fee, preregistered students pay one-third of their fees by the published fee payment deadline. The balance is divided into two installments which are payable at established dates about thirty days apart.

Students who participate in open registration must pay the $15 fee and the initial installment on the day they register. The second and third payments are due on the same dates established for those who have preregistered. Further information about SIPP is available at the Bursar's Office.

Payment of fees can be mailed to the attention of the bursar or presented in person at the cashier windows in Allyn Hall. Mailed payments should be sent to ensure their receipt by the fee payment deadline. Mailed payments received after the deadline will be returned and the original registration will be canceled.

Students whose fees are entirely paid by grants or scholarships must still notify the Office of the Bursar by the established fee payment deadline of their intention to attend Wright State.

Any payment made with a check not honored by the bank will result in a student's registration being canceled unless satisfactory payment arrangements are made within seven days after appropriate notification is mailed to the student. A returned check charge is assessed for each check not honored by the bank. All charges, including the returned check charge, must be paid by the date indicated in the notification.

Financial accounts may be audited at any time during students' enrollment or academic career. If an error is identified, a bill or refund will be issued. The university will issue a refund within thirty days or apply the credit to the account. If students do not make acceptable arrangements to pay any amount due within thirty days after notification, their current registration will be canceled.

Refunds

A current schedule of refunds can be found in the quarterly schedule of classes. Refunds relating to withdrawal are initiated through the Office of the Registrar. Refunds will be calculated as of the date of official withdrawal, unless proof is submitted substantiating circumstances that were beyond the control of the student (e.g., hospital confinement) and that prevented the filing of the official withdrawal at an earlier date. In such a case, the refund will be determined as of the date of said circumstances. Nonattendance of classes or notification of the instructor or department does not constitute official withdrawal. Refunds or reduction of indebtedness for withdrawals after the official dates will not be made in cases of failure or inability to attend classes because of changes in business (e.g., work schedule) or personal affairs (e.g., illness).

Students who officially withdraw from the university before the eighth calendar day of the quarter or its summer session equivalent will receive a 100 percent refund of instructional and general fees paid.

Students who withdraw during the eighth through sixteenth calendar day of the quarter or its summer session equivalent will receive a credit based on seventy percent of the fees assessed.
Students who withdraw during the seventy percent period will be charged thirty percent of the total instructional and general fees assessed, regardless of how much they have paid at the time of withdrawal. For students on the installment payment program, the charge of thirty percent of the instructional and general fees will be subtracted from their payments to determine the amount of any refund.

No refunds will be granted after the sixteenth calendar day of the quarter. Students who withdraw while owing the university money will be considered to be indebted to the university for that amount. Therefore, all refunds will be applied to any indebtedness before being issued to the student. All refunds will be issued thirty days after the date of withdrawal from the university.

Students who drop courses during a partial-refund period will receive the refund according to the published refund schedule that will be in compliance with the policy for complete withdrawal.

All refunds of fees other than instructional and general fees must be approved by the responsible office or department before submission to the Office of the Bursar (e.g., room and board refunds must be approved by the director of housing).

Appeals regarding charges and refunds of instructional fees, late registration fees, and drop fees must be submitted in writing to the Office of the Registrar. Appeal procedures are available in that office.

Criteria for Ohio Residency

Students who are nonresidents of Ohio must pay a nonresident fee in addition to other fees and charges.

The following general rules, established by the University Board of Trustees, determine who can be considered an Ohio resident and cite specific exceptions to the general rules.

Persons in the following categories are classified as residents of the state of Ohio for subsidy and tuition surcharge purposes.

1. Dependent students, 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 the student in an institution of higher education.

2. Persons who have resided in Ohio for all other legal purposes for at least twelve consecutive months preceding their enrollment in an institution of higher education and who are not receiving, and have not directly or indirectly received in the preceding twelve consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.

3. Persons who reside for all legal purposes and are gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who are pursuing a part-time program of instruction at an institution of higher education.
Specific exceptions and circumstances include:

1. 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.

2. A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of that person's domicile.

3. Any alien who holds an immigration visa or is classified as a political refugee shall be considered a resident of the state of Ohio for state subsidy and tuition surcharge purposes in the same manner as any other student.

4. No person who holds a temporary or political refugee visa shall be eligible for Ohio residency for these purposes.

5. A dependent person classified as a resident of Ohio who is enrolled in an institution of higher education when his or her parents or legal guardian remove their residency from the state of Ohio shall be considered a resident of Ohio for these purposes during continuous full-time enrollment and until his or her completion of any one academic degree program.

6. In determining residency of a dependent student, removal of the student's parents or legal guardian from Ohio shall not during any period of twelve months following such removal constitute relinquishment or Ohio residency status otherwise established under this rule.

7. Any person once classified as a nonresident, upon the completion of twelve consecutive months of residency in Ohio for all other legal purposes, may apply to the institution where he or she attends for reclassification as a resident of Ohio for these purposes. Should this person present clear and convincing proof that no part of his or her economic 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, this person shall be reclassified as a resident. The institution may require, among other things, the submission of information regarding the sources of a student's actual support to that end.

8. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of the reclassification.

9. 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 as long as Ohio remains the state of such person's domicile.

10. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

Financial Aid

The Office of Financial Aid makes every effort to assist 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 arrange an appropriate 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 section of the WSU financial aid application). All students must apply for financial aid on a yearly basis.

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.

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 directly to the Ohio Board of Regents by completing a separate Ohio Instructional Grant application.

Students carrying at least six credit hours are eligible to apply for the Pell Grant and Supplemental Educational Opportunity grants. To be considered for the Pell Grant, students must complete either a separate Pell Grant application or a Financial Aid Form (FAF). The Supplemental Grant requires the completion of the Financial Aid Form and the Wright State application for financial aid.

Scholarships

Scholarships are forms of gift aid that are not repaid and may be based either on academic excellence or on both academic excellence and financial need. Wright State is committed to academic excellence and has developed a scholarship program that recognizes students who have demonstrated their academic ability, involvement in extracurricular activities, and creative ability. Most scholarships available through the university range from $500 to $2,500 per year. Many of the scholarships awarded to incoming freshmen are renewable for up to four years, and are based on ACT/SAT scores, class rank, high school grade
point average, writing ability, letters of recommendation from teachers, and extracurricular involvement. Scholarship awards to continuing Wright State students are based on academic records, recommendations from professors, extracurricular activities, and writing ability. Talent scholarships are awarded to both incoming and continuing undergraduates who demonstrate outstanding talent in theatre arts, music, or art.

Scholarship applications may be obtained from high school counselors or the Wright State University Office of Financial Aid. To be considered for scholarships based on both academic performance and financial need, students must complete the Wright State application for financial aid and the Financial Aid Form; please note, however, that most scholarships available through the university are not based on financial need. Wright State must receive scholarship applications from incoming freshmen by February 1, from continuing undergraduate students by April 1, and from undergraduate transfer students by April 15. Application for scholarships available through local industries, foundations, and agencies should be made directly to the organizations.

Students can obtain application information about Army and Air Force ROTC scholarships directly from the ROTC offices. For further information about applying for scholarships, students should contact the coordinator of scholarships in the Office of Financial Aid.

The following scholarships are available for Wright State students:

**Scholarships for Incoming Freshmen**

Wright State University Foundation Scholarships are awarded in the amount of $800 per year to students who demonstrate academic excellence. Many of these scholarships are renewable. Students must have a minimum high school grade point average of 3.25 to apply.*

The Wright State University Board of Trustees has established the Trustees Scholarship in the amount of $2,500 per year for four years of study. It is the university's most prestigious award and is bestowed upon an incoming freshman each year. Applicants must rank in the top five percent of their high school classes and have a minimum ACT composite score of twenty-eight or SAT totals of 1,200 or above (ninety-fifth percentile scores). The recipient is chosen on the basis of academic achievement and potential, extracurricular activities, written and oral communication skills, and recommendations from teachers and guidance counselors.

Honors Scholarships are awarded to incoming freshmen who intend to participate in the Honors Program and graduate as University Honors Scholars. Six scholarships in the amount of $2,000 per year for four years are awarded. Applicants must exhibit outstanding writing and verbal ability as well as commitment to independent and intensive study.
Dr. William H. Sells and Family Memorial Scholarships, in the amount of $1,800 per year for four years, are awarded to students who demonstrate exceptional academic ability, participate in extracurricular activities, and show evidence of good citizenship. Applicants must score above the ninetieth percentile on the ACT or SAT, have a high school grade point average greater than 3.5, and be recommended for the award by a high school guidance counselor or principal.

National Merit Scholarships are awarded to finalists who designate Wright State as their first choice of colleges to the National Merit Corporation. Wright State provides scholarship assistance up to the amount of tuition for four years, in addition to any scholarship awards made by the National Merit Corporation. Students must be named as finalists by the National Merit Corporation to be eligible.

Valedictorian/Salutatorian Scholarships are awarded to students who rank as first or second in their graduating class. Recipients are awarded $1,000 per year, and the awards are renewable for four years. While students do not compete for these scholarships, they must submit a scholarship application for consideration. Guidance counselors must verify the applicant's class standing. The valedictorian will be considered provided the salutatorian does not accept the scholarship.

Ohio Academic Scholarships are awarded by the Ohio Board of Regents to an outstanding student from each high school in Ohio. These awards are in the amount of $1,000 per year for four years. Wright State matches the first year's award of $1,000 for any Ohio Academic Scholar who elects to attend Wright State University.

The Ohio War Orphans Scholarship Program provides assistance for instructional and general fees to dependent children under twenty-one whose parent served for ninety days as a member of the armed services during the following periods: April 6, 1917, to November 11, 1918; December 7, 1941, to September 2, 1945; June 25, 1950, to July 19, 1953; or August 5, 1969, to May 7, 1975.

Chemistry, Materials Science and Engineering, and Geophysics Scholarships are awarded by academic departments to outstanding applicants. These science scholarships are designed to encourage careers in chemistry, materials science and engineering, and geophysics. Awards range from $500 to $1,000 per year.

Undergraduate Transfer Scholarships

Transfer Scholarships are available to students who have a very good academic record at another university or college and who intend to pursue full-time studies at Wright State. Applicants who will complete or who have completed an associate degree at another college or university will be given special consideration. Scholarships are awarded for two academic years and are in the amount of tuition and general fees.

Scholarships for Continuing Undergraduate Students

Continuing students who have demonstrated strong academic achievement by attaining at least a 3.4 cumulative grade point average at Wright State may apply for Wright State University Foundation Scholarships. Applicants compete for these scholarships with other scholarship applicants who are enrolled in their own college or professional school and are selected by a committee comprised of faculty members in their college or professional school. Scholarships range from $500 to $800 for one year.

Alumni Association Scholarships are designed to promote three principal segments of the Wright State student body: those students who have
demonstrated a capacity for academic achievement (have earned at least a 3.0 grade point average); those students with a high potential for future public service; and those students who reflect a tradition of Wright State education in their families. Upperclass standing and financial need are desirable characteristics, but are not essential. Recipients must register for at least nine hours per quarter. Five $1,000 scholarships will be awarded annually.

A $300 Fairborn Optimist Club Scholarship is awarded to a continuing Wright State student who is disabled or pursuing a major in rehabilitation or special education. A student must be a Fairborn or Greene County resident who has financial need and is in good academic standing. Applicants for this scholarship must submit a Financial Aid Form and a Wright State University Scholarship Application.

The Presidential Scholarship of $2,500 is awarded to an outstanding senior who is selected by the president from nominations by the Colleges of Business and Administration, Education and Human Services, Engineering and Computer Science, Liberal Arts, Science and Mathematics, and the School of Nursing. The recipient pursues an independent research project for credit under the direction of the president of Wright State University.

The Fred A. White and Robert S. Oelmann Scholarships were established by the Wright State University Foundation to recognize the achievements and dedication to Wright State University of these two distinguished founders. One Fred A. White Scholarship and one Robert S. Oelmann Scholarship are awarded each year and cover full instructional and general fees.

The Frank L. Salsburg Memorial Honors Scholarship, in the amount of $1,800, is open to junior and senior honors students who have at least a 3.4 cumulative grade point average and who are working toward graduation with departmental honors or as University Honors Scholars.

Distinguished Senior Awards of $1,500 each are awarded each year to two outstanding senior honors students who are completing requirements for graduation with departmental honors or as University Honors Scholars. The awards are aimed at recognizing outstanding accomplishments in research.

The Montgomery County Medical Society Auxiliary (MCMSA) awards scholarships to full-time students who are enrolled in a degree program in medicine or nursing. Applicants must be residents of Montgomery County or contiguous counties and must have at least a 3.0 cumulative grade point average.
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. Students apply for the low interest (five percent) Perkins Loan (formerly the National Direct Student Loan) by completing the Financial Aid Form (FAF) and the Wright State application for financial aid. Students apply for the Guaranteed Student Loan (eight percent interest) by completing the Financial Aid Form (FAF), the Wright State application for financial aid, and by obtaining a loan application from a commercial lending institution, such as a bank, credit union, or savings and loan association. Students who are officially admitted to the School of Nursing are eligible to apply for the Nursing Loan. The Nursing Loan has a six percent interest rate and repayment begins nine months after graduation or termination of half-time (six hours) nursing studies. The Financial Aid Form and the Wright State application for financial aid are required for students to be considered for this loan.

The university has established a short-term loan fund to help students with emergencies. This program allows students to borrow up to $150 per quarter for books and personal expenses. 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 (for the first request). Long-term educational loans are available also from private foundations and philanthropic organizations. Eligibility criteria vary, but all of the loan programs require at least half-time enrollment status. Application forms for several of these loan programs are available through the Office of Financial Aid.

Student Employment

Student employment is available to students who wish to work to help finance their education or just to get extra spending money. Students can obtain information about job opportunities through the Office of Student Employment. For on-campus jobs, students may be employed through the federally funded College Work-Study Program or the regular employment program. The Financial Aid Form and the Wright State application for financial aid must be completed for students to be considered for College Work-Study. 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.

Student employees working on-campus may work up to twenty hours per week while classes are in session and up to forty hours per week during summers and breaks. Students must be registered for a minimum of six credit hours to be eligible for on-campus employment. Students interested in obtaining job referrals for off-campus jobs must be registered for at least one class. There is no limit as to the number of hours students may work per week off-campus.

Veterans’ Benefits

G.I. Bill benefits can be used by veterans and active-duty personnel who served during the post-Korean and Vietnam periods. Veterans who served on active duty for more than 180 continuous days, any part of which occurred after January 31, 1955, but before January 1, 1977, and who were released under conditions other than dishonorable, are eligible. Veterans who were released from active duty after June 1, 1966, have eligibility for ten years after their last discharge or release, or until December 31, 1989, whichever is earlier.

Applications are available from the Veterans Affairs office at Wright State University or from any Veterans Administration office. Educational opportunities are available for children, wives, and widows of veterans whose deaths or permanent total disabilities were service-connected and for wives and children of servicemen declared missing in action or prisoners of war. Students should refer to the Ohio War Orphans Scholarship Program mentioned earlier under the Scholarships for Incoming Freshmen section.

Tutorial assistance is available to students who are receiving benefits under Chapters 31 (vocational rehabilitation) and 34 (regular G.I. Bill benefits). Assistance is given to vocational rehabilitation students according to need while Chapter 34 benefits are limited to a maximum of $84 per month.
The university has several requirements that must be met by every candidate for a bachelor's degree, including the following: students must complete a minimum of 183 hours of credit in approved courses; earn at least a minimum cumulative grade point average of 2.0; complete the General Education requirements; and fulfill the university's residence credit regulations.

Students who are continuously enrolled or eligible to enroll continuously (students are eligible to enroll continuously if enrolled during any part of the calendar year) may elect to meet either the graduation requirements that were in effect when they entered the university or graduation requirements that become effective while they are studying at Wright State. Students not enrolled continuously must meet university requirements in effect when they are readmitted to the university. In addition, students must meet the program requirements in effect when they are admitted to a college, school, or department major program. Programs or colleges may review and revise students' requirements after seven years if they have not completed the program in this time. Students not enrolled continuously may be required to meet program requirements in effect when they are readmitted to a program.

Students are responsible for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation. Students are encouraged to contact advisers in the University Division or colleges and schools for information and guidance in formulating their program of study.

The residence requirements that must be met to receive a baccalaureate degree from Wright State include: a minimum of forty-five hours of course work must be earned at Wright State; at least fifteen of the last forty-five hours of credit must be taken at Wright State; and a minimum of thirty hours of courses numbered 300 or above must be earned at the university. College and school requirements may exceed these minimums. See college requirements for specific details.

Students holding a baccalaureate degree from an accredited institution, including Wright State, and wishing to earn a second baccalaureate degree at Wright State, must satisfy the requirements of the department and college from which the second degree is to be received. Students must earn at least forty-five credit hours beyond the minimum hours required for the first degree. At least the last forty-five hours of course work are to be taken at Wright State, twenty-three of which must be in courses numbered 300 or above.
Scholastic Regulations

The Academic Council at Wright State has formulated the following regulations and procedures concerning scholarship and advising at the university.

The Grading System

Students’ academic achievement is indicated by the following letter grades and points used in calculating grade point averages:

- **A**: Highest quality—4 points per credit hour
- **B**: Second quality—3 points per credit hour
- **C**: Third quality—2 points per credit hour
- **D**: Lowest quality—1 point per credit hour
- **F**: Failure to complete a course for which registered, without officially withdrawing—0 points per credit hour

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- **A**: Highest quality—4 points per credit hour
- **B**: Second quality—3 points per credit hour
- **C**: Third quality—2 points per credit hour
- **D**: Lowest quality—1 point per credit hour
- **F**: Failure—0 points per credit hour

Students’ Wright State grade point average is obtained by dividing the number of points they’ve earned at Wright State by the total number of hours they’ve attempted, excluding any transfer credits that have been accepted by the University.

Student Classification

The grading system

Undergraduate students are classified by the following letter grades and points used in computing grade point averages.

- **A**: Highest quality—4 points per credit hour
- **B**: Second quality—3 points per credit hour
- **C**: Third quality—2 points per credit hour
- **D**: Lowest quality—1 point per credit hour
- **F**: Failure—0 points per credit hour

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 twelve hours of credit for courses in which they have received grades of A, B, or C; and have not received a grade of F, X, D, I, U, T, or N. For 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.

Repeating Courses

Students may repeat any course in which a grade of D, F, or X was earned if the course was taken as part of the first forty-five hours earned (including transfer hours). The course may be repeated until a grade of at least C has been achieved. 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 sixty 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 repeat will become a part of the permanent record.

After the first forty-five hours (including transfer hours), students may repeat any course in which a grade of D, F, or X was earned until at least a grade of C has been achieved. Each grade will be used in determining the cumulative grade point average. Students may repeat courses in which a grade of A, B, or C has been earned in order to increase knowledge or to meet program requirements, but the hours and points for the repeat will not be calculated in the hours earned or in the determination of the cumulative grade point average. Neither will the hours or points be used to meet graduation requirements.

Whenever students repeat a course under these terms, they must specify this on the course registration form when they register.
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 the calculation of cumulative grade point averages for honors, each of students' recorded grades 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. Students may repeat a course later, but the second grade will not affect their undergraduate grade point average.

Auditing Courses
If class space permits, students may audit a course with written approval from the instructor before they enroll. The amount of participation required of auditing students is left to the discretion of the instructor, but it cannot exceed that required of regular students. Audited courses may not be used to establish full-time status, and students may not change their registration from audit to credit or from credit to audit after the first week of class.

Applying for Degrees
Before they graduate, 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. If graduation requirements are not completed in time, students 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.

Honors
Undergraduate students who compile outstanding academic records are recognized at commencement. Honors are based on the following:
- **Summa cum laude** recognizes a cumulative grade point average of at least 3.8;
- **Magna cum laude**, a cumulative grade point average of at least 3.6; and
- **Cum laude** indicates a cumulative grade point average of at least 3.4.

Academic honors are based on the grade point average for work at Wright State University completed as of the end of the term in which a student graduates—that is, by the day on which term grades are due. In the calculation of cumulative grade point averages for 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 ninety graded (A, B, C, D) credit hours at Wright State.

Good Standing
Students who have earned a cumulative grade point average of 2.0 or higher, or 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. The registrar takes scholastic action by placing on mandatory advising those students whose cumulative grade point average drops below 2.0. 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 on mandatory advising must have their adviser's approval of their course selection before registering for classes. Adviser approval is also required for all drop-add transactions as well. Students must pick up their registration forms from their advisers. Students' course loads may be limited if the adviser feels such a restriction is necessary. Counseling, remedial work, course repeats, enrollment restrictions, and other steps may be required by an adviser.

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 S, P, and I aren't used in computing quarter and cumulative averages, they are not considered in determining scholastic action.

Dismissal from the University
Students who remain on mandatory advising for two quarters may be dismissed from the university for unsatisfactory academic performance. Dismissal action is taken by the chief academic officer of the college, school, or division to which those students are assigned in consultation with the head of the respective program unit or the academic adviser. In
taking dismissal action, the academic officer will generally consider the progress toward meeting degree requirements as well as overall academic performance.

Notice of dismissal from the university will be sent directly to students by the chief academic officer of the college, school, or division to which they are 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 Admissions. To be readmitted, students 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.

**Removing High School Deficiencies**

Students should have removed all high school deficiencies (see statement on high school deficiencies in "High School Preparation" section under the major heading of "Admission" in chapter 3) by the end of the quarter in which they have earned forty-five credits at Wright State University. Students who have not met this requirement should not register for additional classes unless they are enrolled in courses to remove these deficiencies. The same regulation applies to all transfer students with fewer than ninety hours of transfer credit.

**Completing General Education Requirements**

Students should have completed ENG 101 and 102 and General Education mathematics requirements by the end of the quarter in which they have earned sixty credit hours. Students who have not met this requirement should not register for additional classes unless they are enrolled in courses that satisfy these requirements. The same regulation applies to all transfer students.

**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. These forms are filed in the registrar's office.
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University Honors Program

The University Honors Program is designed to meet the special needs of superior students. Incoming freshmen can qualify if they meet at least two of the following criteria: (a) a score at or above the ninetieth percentile on the ACT; (b) a high school grade point average of at least 3.25; or (c) a ranking in the top ten percent of their graduating class. Continuing Wright State students with at least a 3.0 grade point average or transfer students are eligible to participate.

The honors curriculum offers a variety of undergraduate courses, including General Education courses and interdisciplinary seminars for upper division honors students. Students may also undertake honors programs in their major fields; these are usually available in the junior and senior years and feature independent study in specialized areas. To enroll in an honors program in their major field, students need the approval of the appropriate department, college, or school.

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). (To complete this eight-course requirement, students may choose from any other courses designated as University Honors courses, except for UH 400 seminars.)
   2. Successfully complete a departmental, school, or college Honors program.

B. To graduate "With Honors" in their major fields, students must complete a departmental, school, or college Honors program as described above for "University Honors Scholars."

C. To graduate with the distinction "General Studies Honors Scholar," students must complete eight Honors courses with grades of B or better and attain a cumulative grade point average of 3.4 or better.

Students participate in the Honors Program at their own pace and remain free to take as many or as few Honors courses as they wish. All Honors courses are so designated on students' transcript.

The Honors Program also offers social, cultural, and leadership development opportunities through participation in the Student Honors Association; the honors magazine Chimaera; the Mid-East Honors Association, the National Collegiate Honors Council, and the University Honors Committee. The Honors Program awards scholarships to both incoming freshmen and continuing honors students. Small grants are available to assist students working on honors projects.

Consult the Honors Program office for additional information and applications.
General Education Requirements
General Education at Wright State

As a part of the requirements for a baccalaureate degree at Wright State University, students must complete a minimum of fifty-seven hours of course work in the General Education program. The specific requirements are listed below and should be completed during the first two years of enrollment. In general, courses numbered 100 should be taken during the freshman year, and courses numbered 200 should be taken during the sophomore year. Students should complete English 101 and 102 and the General Education mathematics requirement by the time they have earned sixty credits at Wright State University (see the section on Completing General Education Requirements in chapter 4).

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 1)—may have program requirements that will affect a student’s choice of General Education courses. Approved substitutions listed below are open to any student in the university 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 20, 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 in chapter 4.

Through the fall quarter of 1989, students who transfer to Wright State University with forty-five or more quarter hours will have the option of satisfying either the new General Education requirements or those in force prior to the fall of 1987.

Purposes of General Education
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.

Thus, 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.

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

Area Two
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.

Area Three
Area Three requirements help students develop an understanding of cultures other than their own and of the realities of global interdependence through a comparative and regional study of nonwestern cultures.

Area Four
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.
General Education Requirements

Area One—Communication and Mathematical Skills
11 hours
ENG 101-4, 102-4 Freshman Composition
*MTH 105-3 Mathematics and the Modern World

Area Two—The Western Experience
15 hours

The Western World
(All required)
HST 101-3 The Western World: The Ancient and Medieval Eras
HST 102-3 The Western World in Transition: The 14th-18th Centuries
HST 103-3 The Modern Western World: The 19th-20th Centuries

Great Books of the Western World
(Choose one**)
ENG 204-3 Great Books: Literature
PHL 204-3 Great Books: Philosophy
REL 204-3 Great Books: The Bible and Western Culture

Fine and Performing Arts
(Choose one**)
ART 214-3 Visual Art in Western Culture
*MUS 214-3 Music in Western Culture
*TH 214-3 The Theatre in Western Culture

Area Three—The Nonwestern World
6 hours

Comparative Studies
(Choose one)
CST 220-3 Comparative Nonwestern Environments
CST 230-3 Comparative Nonwestern Worldviews
CST 230 Comparative Nonwestern Literature
CST 230 Comparative Nonwestern Religions
CST 240-3 Comparative Nonwestern Cultures
CST 240 Nonwestern Cultural Systems
CST 240 Art and Music of the Nonwestern World
CST 250-3 Comparative Nonwestern Social Systems
CST 250 Nonwestern Political Systems
CSE 250 Comparative Economic Systems

Regional Studies
(Choose one)
RST 260-3 Asia
RST 260 Asia: Japan
RST 260 Asia: China
RST 260 Asia: South Asia
RST 270-3 Africa
RST 280-3 Latin America
RST 290-3 The Middle East

Area Four—Understanding the Contemporary World
25 hours

Natural Sciences
(Choose one sequence)
*Biology Sequence
BIO 105-4 Cells, Genes, and Genetics
BIO 106-4 Evolution and Ecology
BIO 107-4 Human Biology

*Chemistry Sequence
CHM 105-4 Chemistry of Our World: Living Things

*Geological Sciences Sequence
GL 105-3 The Planet Earth
GL 115-1 The Planet Earth Laboratory
GL 106-3 The Evolving Earth
GL 116-1 The Evolving Earth Laboratory
GL 107-4 The Earth and Human Affairs

*Physics Sequence
PHY 105-3 Sound and Color
PHY 115-1 Sound and Color Laboratory
PHY 106-3 The Nuclear Atom
PHY 116-1 The Nuclear Atom Laboratory
PHY 107-3 Stars, Galaxies, and the Cosmos
PHY 117-1 Stars, Galaxies, and the Cosmos Laboratory

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

Social Institutions and Processes
(All required**)
SOC 200-3 Social Life
PLS 200-3 Political Life
*EC 200-3 Economic Life

Total Hours Required 57

*Substitutions are allowed for these courses; see the course descriptions below and program requirements listed by the departments.

**Honors students may meet the Great Books or the Fine and Performing Arts requirement with UH 201. Honors students may substitute UH 202 for any one of the three required Social Institutions and Processes courses.
General Education Courses

Art
ART 214-3 Visual Art in Western Culture
A general introduction to the visual arts focusing on selected major works of art throughout history and discuss comparisons across time, basic art media, and the formal characteristics of art.

Biology
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 Substitutions: Biology 111, 112, and 113 or 114. Honors students may substitute UH 203 for BIO 107.

Chemistry
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 Substitutions: CHM 121, 122, and 141 or CHM 101 and 102 and BCH 250 and PHR 340. Honors students may substitute UH 203 for CHM 107.

Comparative Nonwestern Studies
CST 220-3 Comparative Nonwestern Environments
An 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 Nonwestern Worldviews
An examination of the worldviews of selected nonwestern peoples and their varied expression in literature and religion, emphasizing examples from Asia, Africa, Latin America, and the Middle East.

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

CST 230 Comparative Nonwestern Religions
An introduction to nonwestern religious worldviews, 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 Nonwestern 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 Nonwestern Cultural Systems
An introduction to nonwestern cultural systems with examples drawn from several regions of the world, emphasizing how nonwestern societies have addressed universal human problems and adapted to changing world conditions.

CST 240 Art and Music of the Nonwestern World
An introduction to the visual and musical arts of nonwestern cultures. Comparative examination of Asian, African, Middle Eastern, and Latin American art and music with emphasis on two selected cultures.

CST 250-3 Comparative Nonwestern 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.

CST 250 Nonwestern Political Systems
A comparative study of the political processes, institutions, ideologies, and contemporary issues in nonwestern societies emphasizing the relationships between culture and politics.

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

Economics
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.

Substitutions: EC 201, 202, and 203.

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

ENG 102-4 Freshman Composition
Expository writing, stressing rhetorical principles. Prerequisite: ENG 101.

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.

Geological Sciences
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 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 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.

GL 115 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 116 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.

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.
History

The Western World
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.

Mathematics

MTH 105-3 Mathematics and the Modern World
An application of mathematical tools to real world problems to demonstrate the mathematical methodologies of modeling problems and predicting outcomes or solutions. Prerequisite: MTH 102 or at least level 3 placement on the WSU Math Placement Test.

Substitutions: MTH 132 and 133 or STT 164 and 265 or MTH 228

Music

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.

Substitutions: MUS 121 and 122

Philosophy

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.

Physics

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 106-3 The Nuclear Atom
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 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 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 116-1 The Nuclear Atom Laboratory
Experiments to illustrate the phenomenon and concepts of modern physics. Lab component of PHY 106 for students using the course to meet the General Education science requirement.

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, 241/201, and 242/202. Honors students may substitute UH 203 for PHY 105 or 106 or 107.

Political Science

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 with contemporary public issues providing case studies of the consequences of political relationships.

Psychology

PSY 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 and 112
Regional Studies
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 nonwestern regions and the contributions of Africa to world civilization.

RST 280-3 Regional Studies: Latin America
A survey of nonwestern 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.

Religion
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.

Sociology
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.

Theatre
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.

Substitutions: TH 201 and 202
Business and Administration
The College of Business and Administration has as its primary objective the development of qualified business professionals. This objective is met by ensuring a knowledge of basic business functions, by providing the foundation for continuing self-development, by educating students to be aware of the businessperson's responsibilities in the political, social, and economic order of society, and by increasing students' capacity for adjustment to the rapidly changing conditions of the business world.

The College of Business and Administration offers a broad curriculum leading to a Bachelor of Science in Business degree with majors in accountancy, business economics, finance, financial services, management, management information systems, management science, and marketing.

Graduate study is available to qualified students through a program that leads to the Master of Business Administration degree. The program has been designed for persons holding baccalaureate degrees either in business administration or in other areas. Persons who are employed full time may complete a program on a part-time basis by taking courses offered in the evening. Both the master's and bachelor's degree programs are fully accredited by the American Assembly of Collegiate Schools of Business.

A second graduate program leading to a Master of Science degree is offered in social and applied economics. This program stresses the practical application of social science theory. The program includes an internship that integrates experience with a multidisciplinary instructional base. A third graduate program leading to a Master of Science degree is offered in logistics management. For information on the master's degree programs, see the Graduate Catalog.

A chapter of Beta Gamma Sigma, the national scholastic honor society in the field of 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.

Admission

All students who seek a degree in business administration should apply to the director of admissions, Wright State University. 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 current 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

Students seeking admission from the University Division or another college of Wright State must have at least thirty-six credit hours of academic credit (at least twelve of these hours must have been earned at Wright State), a 2.25 cumulative grade point average, and a grade of C or better in a math course at or above the level of college algebra (MTH 128 or 129). Students may initiate the transfer process by completing an Intrauniversity Transfer Form and submitting it to the office of their current major. Students must meet the program requirements current at the time they are admitted to the college.

Admission from Other Universities and Colleges

In general, transfer students who are seeking admission to the College of Business and Administration must satisfy the previously listed criteria for Wright State students.

Returning Students

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

Transfer Credit

The college reserves the right to limit the number of transfer hours applied toward the degree. Credits earned in junior or community colleges will normally apply only to the requirements of the freshman and sophomore years. Credit may be accepted for work done at the 100-200 level in required courses offered by the College of Business and Administration. Course work corresponding to 100-400 level courses outside the college may be applied to the nonprofessional and General Education requirements.

The college may accept for credit a principles course at the 300 level if students complete an advanced course in the same subject area with a grade of C or better. This will be considered a validation of students' credit. This course work is counted toward the degree requirements and will not normally result in an additional number of hours to complete the program of study. Transfer credit from nonregionally accredited institutions will not apply toward the degree. Students should consult with an academic adviser in the College of Business and Administration to determine which courses will apply toward the degree.

Degree Requirements

Candidates for the Bachelor of Science in Business degree must fulfill the university General Education requirements during the freshman and sophomore years. All students will take a basic core of business courses, regardless of their major, and in addition are expected to complete the sequence of required major courses, professional electives, and nonprofessional electives as set forth in the appropriate program. Professional elective courses must be junior- or senior-level courses selected from offerings of the Departments of Accountancy; Economics; Finance, Insurance, and Real Estate; Management; Management Science and Information Systems; and Marketing. Nonprofessional electives must be selected from departments of the university other than those in the College of Business and Administration. At least forty percent (but a maximum of sixty percent) of the work applied toward the degree must be outside the business college.

In order to take 300- or 400-level courses in the College of Business and Administration, students must attain ninety quarter hours of academic credit prior to, or by the completion of, the academic quarter in which they wish to take the 300- or 400-level course or courses. Enrollment in 300-level accountancy courses and all 400-level business courses is restricted to students who have been admitted to the College of Business and Administration.

The last forty-five hours of course work must be taken at Wright State University. All students must complete a total of 189 hours of acceptable academic work with at least a 2.0 cumulative average. In some cases students may find it necessary to earn more than 189 credit hours to complete the requirements of the program under which they seek to graduate.

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.

Advising

Students are urged to plan their program of study with the help of a college adviser. Advisers are available by phone or appointment to answer questions, assist in program planning, or help with procedural and academic problems.

The advising office prepares a student handbook annually, which provides information about program requirements, university and college regulations, and various opportunities available to students majoring in business and administration. In addition, students receive a quarterly newsletter that includes information about upcoming events and activities, special course offerings, and program modifications.
Faculty members of the College of Business and Administration are available to discuss career opportunities and career planning, to recommend professional elective courses, and to supervise internships and independent study projects. Students should contact the appropriate department to determine the faculty members who are available for advising.

Business Minor

Nonbusiness students may earn a minor in business in addition to their major program of study by completing the requirements for the business minor program. These students will receive the designation of "Minor in Business" on their transcript upon graduation. In many cases, students can use all fifty-four 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. This set of courses provides a general foundation for understanding business and for graduate study in business administration and management.

Required Courses for Majors in Business and Administration

An official list of major requirements will be mailed at the time of students' admission to the college. Since this list represents a contract between the college and students, it is important that students meet with an adviser to review the requirements and fill out and sign the program of study form. Seniors are advised to consult their academic adviser prior to the last quarter of study, to ensure that all requirements for graduation will be completed.

Graduation Requirements

All students will be required to satisfy the following minimum requirements for graduation:
1. Completion of 189 credit hours of acceptable academic work
2. Attainment of a 2.0 or better grade point average
3. Completion of all course requirements, as specified by the student's program of study
4. Completion of the last forty-five hours of course work at Wright State
5. Completion of a minimum of thirty credit hours of upper division course work at Wright State

General Education Requirements

Required Substitutions:
MTH 228
EC 201, 202, 203

Freshman Year

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Honors Program

The College of Business and Administration sponsors an honors program in order to allow 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.
Sophomore Year

Fourth Quarter
- ACC 201 3
- EC 201 3
- MS 201 3
- PSY 105 4
- Nonwestern World* 3

Fifth Quarter
- ACC 202 3
- EC 202 3
- MS 202 3
- ENG 330 4
- SOC 200 3

Sixth Quarter
- ACC 203 3
- EC 203 3
- MS 203 3
- PLS 200 3
- Great Books* 3

*Courses must be selected from those approved for the specific area of the General Education requirements. See the chapter on General Education Requirements in this catalog.

Major Programs

There are eight major programs available to students in the College of Business and Administration. For those students who wish to major in business, but do not know which major program they are interested in, there is an undecided category. To ensure timely graduation it is recommended that students select a major prior to 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 determine their major. Advisers are available to help students with this decision. Students who intend to major in accountancy, management information systems, or management science should declare their major prior to their junior year because of the sequential nature of the major requirements. Generally, it is possible to change majors within business during the junior year without delaying graduation.

Accountancy

Professors Castellano, Eiteman, Hassan, Pabst, Paperman (chair), Roehm, Talbott
Assistant Professors Brecha, Campbell, Hereth, Kremer (WSU Lake Campus), Lee, Lew
Instructor Palmer

Students who elect to major in accountancy may prepare themselves for a variety of careers in this area of concentration as well as fulfilling the education requirements for taking the Certified Public Accountant (CPA) examination in the state of Ohio. 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 adviser leads to a variety of career preparations. An optional accounting internship program (ACC 481) is available for qualified students. Accounting majors may complete a second major in finance. Information on this program can be obtained from an academic adviser.

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

Degree Requirements—Accountancy

Bachelor of Science in Business Degree

The program in accountancy requires a minimum of 189 credit hours.

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

Junior Year

Seventh Quarter
- FIN 301 3
- MGT 301 3
- MIS 300 4

Eighth Quarter
- FIN 302 3
- MGT 301 3
- MGT 302 3

Ninth Quarter
- FIN 303 3
- PHL 371 4
- MKT 302 3
- ACC 306 3
- ACC 328 3

Senior Year

Tenth Quarter
- EC 301 3
- LAW 350 3
- Professional Elective 3
- ACC 421 3
- ACC 441 3

Eleventh Quarter
- MGT 306 3
- LAW 360 3
- MGT 491 3
- ACC Elective 3
- Professional Elective 3

Twelfth Quarter
- MGT 492 4
- Professional Elective 3
- ACC Elective 3
- ACC 498/499 3

*The accountancy courses listed for the senior year represent only one schedule of offerings. Other schedules that may better fill students' needs are available. Contact an academic adviser for additional information on alternative schedules for the senior year.
Economics

Professors Anon (Ementus), Blair, Fabrycy, Kumar, Premus, Renas, Sav (chair), Treacy
Adjunct Professor Verdon
Associate Professors Blake, Fichtenbaum, Swaney
Assistant Professors Dung, Shahidi
Adjunct Assistant Professor Crawford

The dimensions of economics range from the practical concerns of how a business firm strives for efficiency to the visionary questions concerning limits imposed by the laws of nature on the earth’s population and natural resources. Economics focuses on efforts to improve our welfare, by understanding individual decision making in the face of relative scarcity and by studying the complex relationships among the production, consumption, and distribution of material goods within systems of markets, governments, and supranational institutions.

Students of economics develop the ability to reason logically, integrate broad perspectives, measure empirically, manipulate in the abstract, and imagine grandly. These skills and talents serve well in preparing students for careers in business, law, and government and for graduate programs in economics, business, and law. Graduates of our program 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, health and delivery systems evaluation, 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 and maintain their future options and the specific skills necessary to use and apply economic ideas. Departmental undergraduate advisers are available to all students who may need advice about formulating and attaining career goals, as well as making decisions concerning elective courses.

Students with a major in business economics must take a minimum of thirty-three credit hours in economics in addition to the basic business core (which includes EC 201, 202, 203) required of all candidates for the Bachelor of Science in Business degree.

Degree Requirements—Business Economics

Bachelor of Science in Business Degree

The program in economics requires a minimum of 189 credit hours.

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

Junior Year

Seventh Quarter
EC 315 4 MIS 300 4
FIN 301 3 Nonprofessional 3
MGT 301 3 Elective 3
Eighth Quarter
EC 317 4 MKT 301 3
FIN 302 3 PHL 371 4
MGT 302 3
Ninth Quarter
EC 316 4 MKT 302 3
EC Elective 3 LAW 350 3
MGT 306 3

Senior Year

Tenth Quarter
EC Electives 6 Nonprofessional 6
Professional Elective 3
Eleventh Quarter
EC Electives 6 MGT 491 3
Professional Elective 3 Nonprofessional Elective 3
Twelfth Quarter
EC Electives 6 Nonprofessional 5
MGT 492 4 Electives 5

Finance, Insurance, and Real Estate

Professors Bacon (chair), Gitman, Goulet, Gressis
Associate Professors Ahmad, Williams
Assistant Professors Ainina, Kaufman
Instructor Fenic

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 business firms and other organizations. The
The curriculum includes courses in accounting, investments, financial institutions, 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. The financial services industry is one of the most rapidly growing areas of the economy. 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 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 189 hours required for graduation. Interested students should contact an academic adviser.

### Degree Requirements—Finance

#### Bachelor of Science in Business Degree

The major in finance requires a minimum of 189 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, will be unable to follow the program as shown. These students should contact their academic advisers to plan their schedules.

#### Junior Year

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<tr>
<td>Nonprofessional Electives</td>
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<td>MGT 492</td>
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<td>Elective</td>
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</table>
Management

Management is a universal process that applies to all career fields and to both private and public organizations. The curriculum offers three alternative courses of study to students: the management major; the management major with a concentration in human resources, and the management major with a concentration in materials management.

The management major should be selected by students who are seeking a broad background in human resources and operations management. Students selecting this alternative will typically fall into one of two categories: persons who know exactly where they will be working and what they will be doing, such as in a family business or in a business they plan to open, and persons who have not decided what they will be doing and therefore do not want to limit themselves by too much specialization in their course work. The management major curriculum provides sufficient flexibility for students to structure a program related to their career goals.

The management major with a concentration in human resources is intended for students who have decided on a career in personnel management. The field is recognized as one playing an increasingly significant role in the success of all types of organizations. Graduates will typically qualify for entry-level positions in such areas as recruiting, testing, interviewing, compensation, and benefits.

The management major with a concentration in materials management is intended for students who have decided on a career in purchasing, materials, or operations management. Traditionally, people with these interests worked primarily in manufacturing. Today, other types of organizations, such as retailing and services businesses, recognize the need for increased productivity and quality. Graduates will typically qualify for entry-level positions in purchasing/procurement, inventory/quality control, and distribution.

Degree Requirements—Management

Bachelor of Science in Business Degree

The program in management requires a minimum of 189 credit hours.

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

Junior Year

All Management Majors

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<td>3</td>
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<td>MGT 306</td>
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Senior Year

Management Majors (No Concentration)

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<td>MGT 491</td>
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<tr>
<td>Major Elective</td>
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<tr>
<td>Professional</td>
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<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Twelfth Quarter</td>
<td>16</td>
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<td>MGT 492</td>
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<tr>
<td>Major Elective</td>
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<td>Professional</td>
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**Senior Year**

**Human Resources Concentration**

**Tenth Quarter**

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**Eleventh Quarter**

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**Twelfth Quarter**

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<td>Elective</td>
</tr>
<tr>
<td>Professional Elective</td>
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<td>Elective</td>
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**Management Major Electives (select 5)**

- MGT 412
- MGT 415
- MGT 421
- MGT 422
- MGT 423
- MGT 435
- MGT 437
- MGT 422
- MGT 439
- MGT 455
- MGT 480
- MS 460
- LAW 360 or 370
- LAW 370
- Professional Electives: 15 hours
- Nonprofessional Electives: 12 hours

**Human Resources Concentration Electives (select 3)**

- PSY 304
- PSY 307
- SOC 350
- Professional Electives: 9 hours
- Nonprofessional Electives: 6 hours

**Materials Management Concentration Electives (select 3)**

- MGT 480B
- MKT 431
- MKT 471
- Professional Electives: 9 hours
- Nonprofessional Electives: 9 hours

**Management Information Systems**

**Professors** Cleary, Cox

**Associate Professors** Constable, Demmy, Hobbs, Lai

**Assistant Professors** Denison, Sanders, Yen

**Instructor** Cochran

The management information systems major provides training for careers in information analysis, business systems design, and information systems management. There is a strong emphasis on business and organizational studies as well as information systems technology. The program includes the study of business systems analysis, business systems design, and computer programming, along with other technical and business areas pertinent to the development, implementation, and maintenance of information systems in a variety of organizational settings. In addition to education in business fundamentals in accounting, finance, marketing, management, and management science, 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 MIS program provides preparation for initial positions as business applications programmers and analysts. With additional experience, graduates of the program will have a sufficiently rigorous background to! advance along several career paths leading to management positions in systems analysis, systems design, programming and systems project leadership, and systems management.
Degree Requirements—Management Information Systems

Bachelor of Science in Business Degree

The program in management information systems requires a minimum of 189 credit hours. The following program represents the optimum schedule for full-time students pursuing a four-year program. Many individuals, especially part-time students, will be unable to follow the program as shown. These students should contact their adviser to plan their schedules.

Freshman Year

First Quarter

<table>
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<td>Fine Arts*</td>
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Second Quarter

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Third Quarter

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Sophomore Year

Fourth Quarter

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<th>Course</th>
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<tbody>
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<td>CS 205</td>
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<td>SOC 200</td>
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Fifth Quarter

<table>
<thead>
<tr>
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<th>Credit</th>
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<tbody>
<tr>
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<tr>
<td>Nonwestern World*</td>
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<td>CS 146</td>
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Sixth Quarter

<table>
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Junior Year

Seventh Quarter

<table>
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<tr>
<td>MGT 301</td>
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<td>ACC 321</td>
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Eighth Quarter

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<tbody>
<tr>
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Ninth Quarter

<table>
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<th>Course</th>
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<td>MGT 306</td>
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<tr>
<td>CS Operating Systems**</td>
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Senior Year

Tenth Quarter

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Eleventh Quarter

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Twelfth Quarter

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MIS Electives (select 2)

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Management Science

Professors Cleary, Cox
Associate Professors Constable, Demmy, Hobbs, Lai
Assistant Professors Denison, Sanders, Yen
Instructor Cochran

The primary focus of the management science major is to provide students with the ability to solve problems. Students majoring in management science will learn to develop models of problem situations, apply decision-making techniques, and develop solutions. The general areas covered in the management science curriculum are statistical techniques, operations research methods, management information systems, and application of computers to the above. In addition, students majoring in management science may, through major electives and professional electives, obtain a facility for applying the management science techniques in a functional area.

The management science curriculum includes courses that are applicable in the functional areas of accounting, economics, finance, management, production management, and marketing. For example, marketing organizations need people with
analytical skills to do market research and to solve physical distribution problems. Public utilities use analysts to forecast demands for energy, plan for expansion, and estimate costs for power generation. The military uses analysts to manage inventories, determine aircraft availability rates, and determine maintenance policies. Manufacturing firms use analysts to determine production schedules, component requirements, and to apply quality control to production operations. Although management science has been developing as a discipline since the beginning of the Industrial Revolution, the progress has accelerated dramatically with the development of large high-speed computers. The proliferation of personal computers (PC's) has made the use of management science techniques possible even in small businesses and organizations. Students who major in management science will be exposed to both large computers and PCs and will learn to utilize them in the decision-making process.

Degree Program
The College of Business and Administration at Wright State University offers an undergraduate program leading to a Bachelor of Science in Business degree with a major in management science. The primary objective of the management science program is to develop qualified men and women to make better decisions through the management sciences. This objective is met by:

- a faculty with extensive experience in manufacturing industry, service industries, government, and other organizations such as Robbins and Myers, Mead Corporation, Armco, Wright-Patterson Air Force Base, NCR, and Montgomery County government.
- an excellent working relationship with the Dayton business community which permits seniors in the capstone course to solve a real-life problem that exists in an organization in the surrounding community.
- an opportunity to use a large, sophisticated computer system and an extensive range of computer software packages.
- an opportunity to use personal computers and a variety of software incorporating management science techniques.
- a chapter of Alpha Iota Delta, the national honor society of the Decision Sciences Institute for outstanding management science majors.
- an opportunity to participate in a cooperative education program and an internship program, which enables students to earn income while they learn on the job.

Degree Requirements—Management Science
Bachelor of Science in Business Degree

Freshman Year

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Sophomore Year

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Junior Year

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Senior Year

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</table>
Courses must be selected from those approved for General Education requirements. See the chapter on General Education Requirements in this catalog.

Major Electives (select 2)

MS 430  
MS 440  
MGT 435  
MGT 437  
MS 460  
MS 477  

Professional Electives 6  
Nonprofessional Electives 7  

Marketing  

Professors Brown, Carusone, Kegerreis, Khera, Venkatesan, Wise  
Associate Professors Anderson, Dovel, Hafer (chair), Lancaster  

Students who major in marketing receive a thorough foundation in the concepts and techniques necessary to make marketing decisions in any organization. In addition to survey courses in Principles of Marketing (MKT 301) and Marketing Management (MKT 302), which are part of the professional business core, marketing majors complete required study in Consumer Behavior (MKT 303), Personal Selling (MKT 336), Product Management (MKT 416), Price Management (MKT 418), Advertising (MKT 441), a course in distribution—either Physical Distribution (MKT 431), Retailing (MKT 461), or a special topics course (MKT 480) approved by the chair of marketing, and the capstone marketing policy course (MKT 492).

Marketing careers are far-reaching and diverse as they touch on all components of the marketing mix—product, promotion, pricing, and channels of distribution. In turn, each of these functional areas also offers dozens of specific job opportunities. For example, the promotional area includes potential employment 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 advisers can discuss specific marketing career plans with students.

For advice pertinent to specific academic programs, see an academic adviser in the dean’s office.

Degree Requirements—Marketing  

Bachelor of Science in Business Degree  

The program in marketing requires a minimum of 189 credit hours.

The following program represents the optimum junior- and senior-year schedule for full-time students pursuing a four-year program. See the section on Required Courses for business and administration majors for the freshman- and sophomore-year schedule. Many individuals, especially part-time students, will be unable to follow the program as shown. These students should contact their academic advisers to plan their schedules.

Junior Year

Seventh Quarter  
FIN 301  
MGT 301  
MKT 301  
MIS 300  
Nonprofessional Elective 4  

Eighth Quarter  
FIN 302  
MGT 302  
MKT 302  
LAW 350  
PHL 371  

Ninth Quarter  
MKT Elective  
MGT 306  
MKT 303  
EC 301  
MKT 336  
MKT 416  
MKT 441  
Professional Electives  
Nonprofessional Electives 4  

Senior Year

Tenth Quarter  
MKT 416  
MKT 441  
Professional Electives  
Nonprofessional Elective 4  

Eleventh Quarter  
MKT 418  
MKT 431, 461, 480  
Nonprofessional Elective 3  
MKT 491  
MGT 491  

Twelfth Quarter  
MKT 492  
MGT 492  
MKT Elective  
Professional Elective or Nonprofessional Elective 3  

Real Estate  

See Finance, Insurance, and Real Estate
Education and Human Services
Dean Roger G. Iddings
Associate Dean James A. Dillehay
Director, Division of Teacher Education Ruth King
Director, Division of Educational Leadership Gerald Sturm
Director, Division of Human Services Gregory Sturm
Director, Division of Health, Physical Education, and Recreation Stephen Frederick
Acting Director, Division of Library and Communication Science Roger G. Iddings
Director, Laboratory Experiences in Education James Uphoff
Administrative Assistant to the Dean Joseph Young
Director, Student Services Sally A. Evans
Teacher Certification Adviser Priscilla Boldt, Judith Henderson

Faculty

Art Education and Art Therapy
Professor Barlow
Assistant Professors Crowe, Owen

Education
Professors Amos, Benner, Bireley, Brown, Collie, Dillehay, Earl (Emeritus), Frey, Graham, Harbage (Emerita), Hoehn, Iddings, Medcalf, Payne, Shupe, Silverman, Stuckman (WSU Lake Campus), Uphoff, White
Associate Professors Bernhardt, Chance, Clark, Custenborder (WSU Lake Campus, Emerita), Dittmar, Emanuel, Hansell, Jones, Landers, Mathies, Pendergrass, Presno, Schumacher, Sturm, Swinger, Tea, Wade (Emeritus), Williams, Winkeljohn, Young
Adjunct Associate Professor Barton, Engebretson
Assistant Professors Jenkins, King, Self
Adjunct Assistant Professors Ackerley, Koch, Shearer
Instructor Courtney
Adjunct Instructor Simon

Educational Leadership
Professors Dillehay, Graham, Hoehn, Medcalf, Stuckman (WSU Lake Campus)
Associate Professors Pendergrass, Presno, Sturm, Young
Adjunct Associate Professors Barton
Assistant Professors Auer, Gilbert, Willis

Health, Physical Education, and Recreation
Associate Professors Frederick, Isaacs
Assistant Professor Pohlman
Instructor Gayle
Adjunct Instructor Knight

Human Services
Professors Barlow, Frey, Shupe, Silverman
Associate Professors Bernhardt, Emanuel, Jones, Schumacher
Adjunct Associate Professor Engebretson
Assistant Professors Campanelli, Golub, Jenkins, La Forge, Self
Adjunct Assistant Professors Ackerley, Koch, Shearer
Adjunct Instructor Simon

Library and Communication Science
Associate Professor Mathies
Instructor Pappas

Teacher Education
Professors Amos, Benner, Bireley, Brown, Earl (Emeritus), Harbage (Emerita), Iddings, Payne, Swinger, Uphoff, White
Associate Professors Chance, Clark, Custenborder (WSU Lake Campus, Emerita), Dittmar, Hansell, Landers, Tea, Wade (Emeritus), Williams, Winkeljohn
Assistant Professors Crowe, King, Owen
Instructors Courtney, Flynn, Johnson
Wright State University recognizes the preparation of teachers, educational leaders, and professionals in human services as a primary function. The College of Education and Human Services assumes responsibility for furthering the objectives of the university in these areas of concern. A variety of programs is offered by the college through its Allied Health Professions Program and the Divisions of Teacher Education; Educational Leadership, Human Services; Health, Physical Education, and Recreation; and Library and Communication Science. Both undergraduate and graduate programs leading to certification by the Ohio Department of Education in primary, elementary, special education, secondary, and K-12 school teaching fields are offered within the Division of Teacher Education. The Divisions of Educational Leadership and Human Services are concerned with programs preparing 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 education are offered. Graduate degrees include the Master of Arts, Master of Art Therapy, Master of Education, Master of Rehabilitation Counseling, and Master of Science.

Degree programs include General Education requirements, an intensive study of an academic or a specialized professional area, and a professional component that integrates theoretical considerations 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 inservice 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 the schools of the community.

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.

Undergraduate Programs

The College of Education and Human Services offers four-year curricula leading to the Bachelor of Science in Education degree and Ohio teacher certification in the following fields.

The elementary and secondary programs have been revised to 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 can anticipate spending five full days of prequarter participation during Phase I and an additional half day per week per quarter for a two-quarter sequence. In Phase II, one day per week participation for three quarters is required. These requirements should be taken into account when scheduling other courses. Upon acceptance into the College of Education and Human Services, students should meet with their adviser to determine specific program changes, which may not be reflected in this catalog.

Elementary—Grades 1-8

See the section on Elementary Education for concentrations.

Kindergarten-Primary

Special Education K-12

Developmentally Handicapped
Multihandicapped
Orthopedically Handicapped
Severe Behavioral Handicapped*
Specific Learning Disability

*To major in SBH, students must be eligible to take graduate courses, counseling skills, and clinical practice as special graduate students in their senior year. This program requires senior standing and a 3.0 grade point average. Students cannot complete this program if they are not eligible for senior permission to the graduate courses.

Special Fields—Grades K-12

Computer Science
Language
Music Education (see Music, College of Liberal Arts)
Physical Education
Visual Art
Secondary—Grades 7-12

Major Teaching Fields
- Biological Sciences
- Chemistry
- Drama/Theatre
- Earth Science
- English
- History
- Mathematics
- Physics
- Vocational Business

Secondary Comprehensive
- Business Education
- Communications
- Humanities
- Science
- Social Sciences

Second Teaching Fields
- Biological Sciences
- Chemistry
- Drama/Theatre
- Earth Science
- Economics
- English
- General Science
- Geography
- History
- Library Media
- Mathematics
- Physics
- Political Science
- Physical Education
- Psychology/Sociology

Rehabilitation Education
The College of Education and Human Services also offers a four-year curriculum leading to a Bachelor of Science degree with a major in rehabilitation education. This program prepares students to work with the physically/mentally disabled and disadvantaged, 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
- Prekindergarten
- Teaching English to speakers of other languages (TESOL)

Please see your adviser for requirements.

Education Honors Program
Outstanding students enrolled in programs in the Division of Teacher Education have an opportunity to complete the University Honors Program or an honors program in education. This program provides students 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 adviser.

Teacher Education Honors Scholar Program
Incoming students who score at the ninetieth percentile on the ACT or SAT may apply for admission to the Teacher Education Honors Scholar Program. Students selected for this program also participate in the University Honors Program.

Students take special honors courses in the Division of Teacher Education starting in their first quarter on campus. Early and continuing contact between program participants and faculty mentors is a feature of the program.

As part of the University Honors Program, students will successfully complete five General Education Honors sections and two University Honors 400 Seminars.

During the junior year, participants will enroll for two successive quarters (six credit hours) in ED 400 for an honors project under the guidance of a faculty adviser.

To meet the criteria for retention, majors must:
- be full-time students earning at least thirty-six hours per year
- maintain a 3.0 cumulative grade point average
- meet all requirements of the prescribed teacher education program and the university and college honors programs

This program will lead to graduation as a University Honors Scholar with a Bachelor of Science in Education degree. Students interested in pursuing this program should consult an education adviser.
Admission and Retention Standards/Advising

The admission and retention policy and practices of the College of Education and Human Services are based upon the following principle, which is supported by the Ohio Laws and Regulations of the State Board of Education and the National Council for Accreditation of Teacher Education.

"Because there are skills, understandings, and personal characteristics unique to teaching, students seeking admission to programs in teacher education must meet requirements in addition to those generally prescribed for enrollment in the university. While academic performance is a major determinant of effective teaching, it is not the only one. Colleges of education have the right and obligation to consider personal factors as well as academic achievement as a basis for admission and retention of a student in its professional education programs."

Admission
See an academic adviser in the college for current admissions requirements.

Students are admitted to the College of Education and Human Services teacher education major after they have completed forty-five credit hours, have attained a 2.5 grade point average, and acceptable scores on the PPST. The rehabilitation education major admissions requirements are a 2.25 grade point average and completed twenty-four credit hours.

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 forty-five credit hours (or equivalent) of college credit, and acceptable scores on the PPST.

Retention
In order to increase the likelihood of students' success, the professional degree program requires that certain criteria be met at various stages that lead to recommendation for certification and graduation. These criteria reflect requisite academic standards and effective performance of professional responsibilities that include the ability to provide for students' safety; effectively communicate with students orally and in writing; provide a stable, supportive environment that will facilitate 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 retention and the recommendation for certification.

Advising

Upon admission to the College of Education and Human Services, students are assigned an adviser. Students are expected to have an initial conference with their advisers to review the academic program. Students are strongly encouraged to see their advisers whenever they have questions concerning their programs, specific courses or course sequences, or their professional goals. 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 adviser before registering. Any deviation from the specified curriculum should be discussed in detail with the adviser before it is undertaken. An undergraduate education guidebook is provided for all students. This book should be studied carefully and kept with all academic records.

Degree Requirements

The Bachelor of Science in Education degree is earned by College of Education and Human Services students completing teacher preparatory programs. It is granted only to students qualifying for a teaching certificate in Ohio. The program leading to the Bachelor of Science degree with a major in rehabilitation education prepares students to work with the disabled and disadvantaged, but does not lead to a teaching certificate.

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, including an examination prescribed by the State Board of Education, and be recommended by the dean of the College of Education and Human Services.

The definition of "good moral character" is an individual who has not pleaded guilty to or 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 said individual meets the conditions specified in rule 3301-23-23 of the Administrative Code.
General Degree Requirements

1. Completion of a minimum of 192 credit hours
2. Fulfillment of university General Education requirements
3. An overall cumulative grade point average of 2.5 or higher for teacher education and 2.25 for rehabilitation education
4. Successful completion of competency tests for teacher education
5. Satisfactory completion of all required professional laboratory experiences

Specific Requirements

Elementary Education (preparation for teaching in elementary grades)
1. General requirements listed previously
2. Of the 192 credit hours required for graduation, a minimum of fifty-eight to sixty quarter hours in professional education
3. Completion of prescribed pattern of courses
4. A thirty credit hour area of concentration in a discipline selected from the humanities, mathematics, natural sciences, or social studies

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 forty-nine hours in professional education
3. Completion of appropriate speech course
4. For specific degree requirements in art education, educational media, physical education, and a description of certification requirements in special education, 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 forty-nine 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. Students who have taken the curriculum and materials course in the major field are not required to take a comparable course in other fields but may do so. If the two fields are unrelated, a second curriculum and materials course may be required.

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.

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.

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 will be recommended for certification only upon satisfactory completion of all 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, and the minimum of 192 credit hours. Upon completion of forty-five hours, students from other colleges who are seeking certification should review their programs with a teacher certification adviser and make application to the certification program.

Certification for Holders of Nonprofessional Degrees

Students who are graduates of other accredited colleges or universities may be recommended for certification upon satisfactory completion of the general, major, and professional courses required for the teaching field or fields in which they seek certification and successful completion of competency tests. Certification candidates are urged to have their records evaluated and their programs planned by a teacher certification adviser upon application to the college.
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.

School Nursing Certification

Required Courses  
- HPR 330 or NUR 413: 4-10
- ED 214, 218, 302, 327: 12
- HPR 440: 3
- HPR 419: 12-15
- NUR 414: 3

Biological Sciences Education

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, 141

Professional Education Requirements 49-51

- Phase I*
  - ED 214, 216, 218, 220, 221, 222, 223: 12

- Phase II*
  - ED 302, 327, 432, 464, 431, 321, 322, 323;
    - LCS 280; COM 101: 21

- Phase III*
  - ED 422, 440, 429: 16-18

Business Comprehensive Education

Business comprehensive education leads to the Bachelor of Science in Education degree and state certification. The comprehensive major meets high school certification requirements in comprehensive business education. The comprehensive major leads to certification in all areas of secondary business education, including bookkeeping/basic business; typing, word processing, and office procedure; stenography, typing, and office procedure; sales; economics; and computer science.

Degree Requirements—Business Comprehensive Education

Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 57-59

- Phase I*
  - ED 214, 216, 218, 220, 221, 222, 223: 12

- Phase II*
  - ED 302, 321, 322, 323, 327, 432, 464, 433,
    - 434, 435; LCS 280; COM 101: 29

- Phase III*
  - ED 422, 429, 440: 16-18

Biological Sciences Education as a Second Teaching Field

Forty-eight credit hours in biology are required for biological sciences as a second teaching field. Required courses are BIO 111, 112, 202, 203, 204, 205, 302, 307 or 402/405, 208, 209.
Chemistry Education

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

General Education Requirements 64

Required substitutions:
BIO 111, 112, 114
MTH 132, 133

Professional Education Requirements 49-51

Phase I*
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II*
ED 302, 321, 322, 323, 327, 431, 432, 464, LCS 280; COM 101 21

Phase III*
ED 422, 440, 429 16-18

Chemistry Concentration Requirements 80

CHM 121, 122, 141 15
CHM 211/215, 212/216, 213/217 18
CHM 451, 452 6
CHM 312/314 7.5
GL 251/252, 253/254, 255/256 13.5
PHY 240/200, 241/201, 242/202 15
MTH 231 5

Total (minimum requirement) 193

*Field and clinical experiences required.

Computer Science Education K-12

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 are 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 67

Required substitutions:
MTH 132, 133
PHY 240/200, 241/201, 242/202

Professional Education Requirements 49-51

Phase I*
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II*
ED 302, 321, 322, 323, 327, 432, 464, LCS 280; COM 101
Secondary School Computer Science Curriculum and Materials 21

Phase III*
ED 422, 440, 429 16-18

Related Requirements 10

MTH 253 or 355, 257 6
STT 360 4

Computer Science Requirements 47

CS 141, 142, 146, 400 16
CEG 260, 320, 430 12
CS 480 or 340 4
CS 316, 470 8
LCS 487, LCS 470 Logo/Logowriter 7

Electives 17-19

Total (minimum requirement) 192

*Field and clinical experiences required.
Drama/Theatre Education

The drama/theatre education program leads to a high school certification in grades 7-12. This major requires forty-five hours of theatre courses. This major must be combined with English as a second teaching field.

Degree Requirements—Drama/Theatre Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 49-51

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 327, 302, 432, 464, 424, 321, 322, 323; LCS 280, COM 101 21

Phase III
ED 422, 440, 429 16-18

Drama/Theatre Requirements 45

TH 147, 148, 149, 201, 202 12
TH 220, 222, 290 9
TH 324 or 325, 350, 352 9

Choose four from the following:
TH 360, 361, 366, 367, 368, 370 15

Second Teaching Field: English 45

Total (minimum requirement) 192

Drama/Theatre as a Second Teaching Field

Forty-five hours are required including: TH 147, 148, 149, 201, 202, 220, 222, 290, 324, 350, 352, 370; plus four from the following: TH 360, 361, 366, 367, 368, 369.

Earth Science Education

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

General Education Requirements 59

Required substitutions:
CHM 121, 122, 141

Professional Education Requirements 49-51

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 302, 321, 322, 323, 327, 432, 464, 431 LCS 280, COM 101 21

Phase III
ED 422, 440, 426 16-18

Earth Science Concentration Requirements 75.5

GL 251/252, 253/254, 255/256 13.5
GL 305, 311, 330, 333, or 420 19.5
GEO 201, 334 8

Choose nine hours:
GL 434, 429, 331, 399 9
BIO 111, 112, 114 12
PHY 111/101, 112/102, 113/103 13.5

Electives 6.5-8.5

Total (minimum requirement) 196

*Field and clinical experiences required.

Earth Science Education as a Second Teaching Field

Forty-six and one-half credit hours minimum are required for earth science as a second teaching field. Required courses are GL 251/252, 253/254, 255/256, 305, 311, 330, 333, 365, 420, and nine hours from GL 434, 429, 331, 399.

Economics Education

Economics education may be chosen as a second teaching field only. (See Social Studies Comprehensive Education for the major teaching field requirements in this area.) To be recommended for Ohio Provisional Certification in this teaching field, students must also have completed the program of a major teaching field. Forty-five credit hours are required, including EC 201, 202, 203. Select courses from the following: EC 301, 315, 316, 317, 326, 340, 351, 352, 354, 370, 401, 402, 425, 431, 432, 436, 440, 441, 442, 444, 454.
Elementary Education

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 fifty-eight to sixty credit hours of professional education and a thirty hour area of concentration are required.

Degree Requirements—
Elementary Education

Bachelor of Science in Education Degree

General Education Requirements 57
Area Two—Fine and Performing Arts
   Select ART 214
Area Three—The Nonwestern World
   Select CST 240
Area Four—Natural Sciences
   Select BIO 105, 106, 107
Professional Education Requirements 58-60
Phase I
   ED 214, 216, 218, 220, 221, 222, 223 12
Phase II
   ED 302, 311, 315, 316, 317, 321, 322, 323,
   327, 417, 437, 464; LCS 280 30
Phase III
   ED 419, 422, 440 16-18
Content Curriculum 51
   AED 431; COM 103; ED 241, 242, 243; ENG 342,
   478; HPR 281, 331; MTH 243, 244; MUS 365.
   GEO 201 or 202 or 203; HST 211, 212
Concentrations
   (must select one of the following concentrations)
   Humanities/English 23-26
      ENG 421; select one linguistics: ENG 479, 480;
      select one writing: ENG 301, 302, 303, 344, 341.
      Also select three literature courses (each from a
different group): Introduction to Literature ENG 255,
210, or 211; American Literature ENG 355, 356, or
357; Literature for Young People LCS 463 or ENG
190; Literature Multicultural Perspective ENG 205,
203, 204, 490, or CSR 230
   Humanities/Foreign Language and Culture 30
      Children’s Literature for Teachers of Foreign
Languages; select one: CLS 150, 160; select one of
the following languages:
FR 101, 102, 103, 201, 202; ML 111
GER 101, 102, 103, 201, 202; ML 112
RUS 101, 102, 103, 201, 202; ML 115
SPAN 101, 102, 103, 201, 202; ML 113

English Education

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. Advisers 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 in 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 57
Area Two—Great Books of the Western World
   Select ENG 204
Professional Education Requirements 49-51
Phase I
   ED 214, 216, 218, 220-221, 222, 223 12
Phase II
   ED 321, 322, 323, 327, 302, 324, 464, 423,
   LCS 280; COM 101 21
Phase III
   ED 422, 429, 440 16-18

Mathematics

MTH 345; ED 413, 418; select two of the following:
MTH 128, 129, 130, 131, 228; STT 164 and 165;
select two of the following: LCS 485, 486, 487

Social Sciences

Select one: HST 218, 219; select one: HST 470, 475,
480; select one: HST 318, 392, 425, 445, 455, 465;
select one: PLS 322, 323, 331, 340, 371; select one:
GEO 262, 325, 330, 375

Natural Sciences

Select four: CHM 105, 106, 107; GL 105, 106, 107;
PHY 105, 106, 107
Electives 0-10

Total (minimum requirement) 192
English Education Major Requirements 43-44
ENG 255, 341, 478 or 479
Four of the following:
ENG 351 or 352, 353 or 354, 355 or 356 or 357
and one other course from this group.
Three of the following (each from a different category):
ENG 410, 420, 430, 440, 450, 460, 490
Four hours of electives from the following:
ENG 257, 301, 302, 303, 309, 330, 333, 343, 344, 480
Electives 40-43
Second or supporting field suggested.
Total (minimum requirement) 192
*Field and clinical experiences required.

History Education as a Second Teaching Field
Forty-five credit hours are required, including
ENG 101, 102, 203 (or 204 or 490 or CST 230), 255, 341, 478 or 479. ENG 351 or 352, 353 or 354, 355, 356, or 357; two 300- or 400-level electives in literature, linguistics, or writing: ED 432.

General Science Education
General science may be elected as a second teaching field only. Required are fifty-four credit hours, including BIO 111, 112, 114; CHM 121, 122, 141; PHY 111/101, 112/102, 113/103; GL 251/252, 253/254, 255/256.

Geography Education
Geography education may be chosen as a second teaching field only. (See Social Studies Comprehensive Education for the major teaching field requirements in this area.) To be recommended for Ohio Provisional Certification in this teaching field, students must also have completed the program of a major teaching field. Forty-five credit hours are required, including GEO 201, 202, 203, and nine advanced courses chosen from GEO 262, 302, 311, 325, 330, 331, 340, 343, 354, 360, 365, 370, 375.

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 52-54
Phase I
ED 214, 216, 218, 220, 221, 222, 223 12
Phase II
ED 321, 322, 323, 327, 302, 432, 464, 439, 448, LCS 280, COM 101 24
Phase III
ED 422, 440, 429 16-18
History Education Major Requirements 37
HST 300, 498 8
HST 211, 212 6
U.S. history (upper division) 8
European history (upper division) 4
Nonwestern History—Latin American, African, Asian (upper division) 8
History electives 3
Related Social Science
Second Teaching Field 37-45
Courses to complete the requirements of a second teaching field in one of the following areas: political science (recommended), sociology, psychology, geography, economics
Electives 0-9
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, 300, 498, plus upper division courses in U.S. history, nonwestern and European history.
Humanities Comprehensive Education

The humanities certification program prepares students to teach interdisciplinary humanities courses at the 7-12 grade level. This concentration requires ninety quarter hours, with course work distributed over the following areas: visual art, music, literature, philosophy, theater, comparative studies, and religion. After completing a core of required interdisciplinary courses (33-34 hours), students build individual programs of study from a wide range of electives.

Degree Requirements—Humanities Comprehensive Education

Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 49-51

Phase I*
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II*
ED 327, 302, 423, 432, 464, 321, 322, 323;
LCS 280, COM 101 21

Phase III*
ED 422, 440, 449 16-18

Humanities Comprehensive Requirements 90

CLS 150, 310, 320 11
ENG 255 4
Choose two of the following: ENG 355, 356, 357 8
Choose one of the following: ART 211, 212, 213 4
Choose one of the following: PHL 301, 302, 303 4
Choose one of the following: ENG 205;
REL 111, CST 230 4

Electives 56-57

Choose from the following:
CLS 160, 340 7
MUS 214 3
ENG 203, 490, 190 10
REL 112, 202, 305 9
TH 101, 360, 361 10
LCS 463 3
CST 240 6
PHL 351, 381, 401 11
Motion Pictures/TH 231, 232, 233 9
ART 219 4

Total (minimum requirements) 196

*Field and clinical experiences required.

Languages Education

Degree Requirements—Languages Education K-12

Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 49-51

Phase I*
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II*
ED 302, 321, 322, 323, 327, 425, 432, 464;
LCS 280, COM 101 21

Phase III*
ED 422, 440, 429 16-18

Languages Major Requirements 68-74

French:
FR 101, 102, 103, 201, 202, 203 24
FR 301, 302, 321, 322, 341, 342, 361 26
ML 111 4
French electives (400 level) 16

German:
GER 101, 102, 103, 201, 202, 203 24
GER 301, 302, 321, 322, 341, 342 24
ML 112 4
German electives (400 level) 16

Spanish:
SPN 101, 102, 103, 201, 202, 203 24
SPN 301, 302, 321, 322, 331, 332 24
SPN 361, 341, 342 10
ML 113, 114 8
Spanish electives (400 level) 8

Latin:
LAT 101, 102, 103, 201, 202 20
CLS 101, 160, 300, 310, 320 20
Latin electives (351 and above) 28

Electives 12-18

Total (minimum requirement) 192

*Field and clinical experiences required.

Kindergarten—Primary (K-3)

This certification may be added to the elementary program with the addition of the following courses: ED 411, 412, 414, 409. Half-time student teaching in a kindergarten classroom is required.
Library Media K-12

The program in library media prepares students to serve as educational media specialists in elementary or secondary school library media centers. Students may choose from several options. Students may choose a program designed to prepare them to work in either an elementary or a secondary school (K-12); they may couple preparation in library media with a program in elementary education; or they may choose educational media as a second field coupled with one or more secondary teaching fields. Students are strongly advised to complete at least one teaching field concurrently with the preparation to serve as a library media specialist.

Degree Requirements—Library Media K-12

Bachelor of Science in Education Degree

General Education Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Education Requirements</td>
<td>55-58</td>
</tr>
</tbody>
</table>

**Phase I**

- ED 214, 216, 218, 220, 221, 222, 223: 12 credits

**Phase II**

- ED 302, 321, 322, 323, 327, 432, 464, LCS 280, 449, COM 101: 21 credits

**Phase III**

- ED 422, 440: 4 credits
- LCS 481, 482: 12 credits
- ED 458 or 429**: 6-9 credits

Library Media Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCS 411, 421, 435, 449</td>
<td>13</td>
</tr>
<tr>
<td>LCS 461, 463, 491</td>
<td>9</td>
</tr>
<tr>
<td>ED 315</td>
<td>3</td>
</tr>
<tr>
<td>LCS 481, 482</td>
<td>12</td>
</tr>
<tr>
<td>LCS electives from the following:</td>
<td></td>
</tr>
<tr>
<td>LCS 455, 466, 445, 446, 451</td>
<td>9-10</td>
</tr>
</tbody>
</table>

Electives or Second Teaching Field

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (minimum requirement)</td>
<td>192</td>
</tr>
</tbody>
</table>

**Field and clinical experiences required.**

**Phase I**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 214, 216, 218, 220, 221, 222, 223</td>
<td>12</td>
</tr>
</tbody>
</table>

**Phase II**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 327, 320, 432, 464, 437, 438, 321, 322, 323, LCS 280, COM 101</td>
<td>24</td>
</tr>
</tbody>
</table>

**Phase III**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 422, 440, 429</td>
<td>16-18</td>
</tr>
</tbody>
</table>

Mathematics Education Major Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 231</td>
<td>5</td>
</tr>
<tr>
<td>MTH 280, 355, 431, 440, 451, 471</td>
<td>20</td>
</tr>
<tr>
<td>STT 360</td>
<td>4</td>
</tr>
<tr>
<td>Two of the following:</td>
<td></td>
</tr>
<tr>
<td>MTH 432, 452, 457, 458, 472, STT 361</td>
<td>6-7</td>
</tr>
<tr>
<td>Students must choose either a physics or computer science option.</td>
<td></td>
</tr>
</tbody>
</table>

**Physics option:**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 240/200, 241/201, 242/202</td>
<td>15</td>
</tr>
<tr>
<td>If these courses are applied toward General Education Requirements, do not add these credit hours toward major requirements.</td>
<td></td>
</tr>
</tbody>
</table>

**Computer science option:**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 141, 142, 146, 400</td>
<td></td>
</tr>
<tr>
<td>CEG 260, 320 recommended</td>
<td></td>
</tr>
<tr>
<td>MTH 257 strongly recommended</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second or supporting field suggested.</td>
<td></td>
</tr>
</tbody>
</table>

**Total (minimum requirement)**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (minimum requirement)</td>
<td>192</td>
</tr>
</tbody>
</table>

**Field and clinical experiences required.**

Library Media as a Second Teaching Field for Secondary Education Majors

Library science education may be elected as a second teaching field only. Forty-five credit hours are required, including LCS 411, 421, 435, 449, 461, 463, 481, 482, 491; ED 315; and electives from the following: LCS 455, 486, 445, 446, 451.

Mathematics Education

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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required substitutions:</td>
<td></td>
</tr>
<tr>
<td>MTH 132, 133</td>
<td></td>
</tr>
<tr>
<td>If physics option is chosen, PHY 240/200, 241/201, 242/202 can be applied toward General Education Requirements.</td>
<td></td>
</tr>
<tr>
<td>Professional Education Requirements</td>
<td>52-54</td>
</tr>
</tbody>
</table>

**Phase I**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 214, 216, 218, 220, 221, 222, 223</td>
<td>12</td>
</tr>
</tbody>
</table>

**Phase II**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 327, 320, 432, 464, 437, 438, 321, 322, 323, LCS 280, COM 101</td>
<td>24</td>
</tr>
</tbody>
</table>

**Phase III**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 422, 440, 429</td>
<td>16-18</td>
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</table>

Mathematics Education Major Requirements

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<tr>
<th>Requirement</th>
<th>Credits</th>
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<tr>
<td>MTH 231</td>
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<td>MTH 280, 355, 431, 440, 451, 471</td>
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<td>STT 360</td>
<td>4</td>
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<tr>
<td>Two of the following:</td>
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<tr>
<td>MTH 432, 452, 457, 458, 472, STT 361</td>
<td>6-7</td>
</tr>
<tr>
<td>Students must choose either a physics or computer science option.</td>
<td></td>
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</table>

**Physics option:**

<table>
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<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHY 240/200, 241/201, 242/202</td>
<td>15</td>
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<td>If these courses are applied toward General Education Requirements, do not add these credit hours toward major requirements.</td>
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</table>

**Computer science option:**

<table>
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<th>Requirement</th>
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<tr>
<td>CS 141, 142, 146, 400</td>
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<td>CEG 260, 320 recommended</td>
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**Total (minimum requirement)**

<table>
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<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (minimum requirement)</td>
<td>192</td>
</tr>
</tbody>
</table>

**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 a minimum of forty-five credit hours of mathematics, including MTH 132, 133, 231, 260, 355, 431, 440, 451, 471; STT 360. Two of the following are required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 432, 452, 457, 458, 472, STT 361</td>
<td></td>
</tr>
</tbody>
</table>
Physical Education K-12

Degree Requirements—Physical Education K-12

Bachelor of Science in Education Degree

General Education Requirements 58

Required substitutions:
BIO 112, 208, 209

Professional Education Requirements 52-54

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 327, 321, 322, 323, 432; LCS 280 9
ED 302; COM 101 6
HPR 381, 382, 383 9

Phase III
ED 422, 440, 429 16-18

Physical Education Major Requirements 86-89

HPR 212, 220, 221, 241, 242, 260 17
HPR 340, 350, 351, 355 15
HPR 440, 450, 455 11

Sports Skills Requirement 15
Seven different sports and three different levels are required as follows: one aquatic, one dance, two individual sports, two team sports, and one lifetime sport. At least one course must be taken at the advanced level and two at the intermediate level. The remaining four courses can be taken at the beginning level.

Concentration 28-31
Choose one from the following:
adapted physical education, athletic training, or coaching.

Total (minimum required) 196

*Field and clinical experiences required.

Physical Education (Secondary, Grades 7-12) as a Second Teaching Field

These courses are required: BIO 112, 208, 209; HPR 212, 241, 260, 340, 350, 351, 382, and 455. All students are also required to take five sports skill courses: one aquatic, one dance, one team sport, one individual sport, and one lifetime sport. One course must be taken at the advanced level and one at the intermediate level.

For students in this second teaching field, the three-course sequence of BIO 112, 208, 209 may be used for meeting the General Education science requirement. This credit is therefore not included in the total credit hours for this second field.

HPR 382 and the sports skill requirement are prerequisites for student teaching.

Physics Education

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. Student 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

General Education Requirements 67

Required substitutions:
MTH 132, 133
PHY 240/200, 241/201, 242/202

Professional Education Requirements 49-51

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 327, 321, 322, 432, 431, 321, 322, 323; LCS 280; COM 101 21

Phase III
ED 422, 429, 440 16-18

Physics Concentration Requirements 77.5

PHY 243 2
PHY 260, 450, 451 10
PHY 314, 371, 372 9
BIO 111, 112, 114 12
CHM 121, 122, 141 15
GL 251/252, 253/254, 255/256 13.5
MTH 231, 233 10
PHY (choose two) 400, 420, 430 6

Total (minimum required) 193.5

*Field and clinical experiences required.

Physics Education as a Second Teaching Field

Physics education as a second teaching field requires forty-eight credit hours including
PHY 240/200, 241/201, 242/202, 243, 260, 314, 450, 451, 371, 372. Choose two of the following:
PHY 400, 420, 430. Choose two of the following:
PHY 123, 125, 280.
Political Science Education

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. Forty-eight credit hours are required, including PLS 212, 222, 301, 305, 321, 322, 323, 324, 331, 335, 380, 440.

Psychology/Sociology Education

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. Forty-eight hours are required, including PSY 111, 112, 311, 321, 331, 351; SOC 111, 201. Select four of the following: SOC 221, 301, 330, 332, 340, 360, 363.

Rehabilitation Education

The rehabilitation education program offers two areas of concentration: generalist and mental health. Graduates are employed in human service agencies that serve individuals who are physically, mentally, or socially disadvantaged. The program also prepares students for graduate study in rehabilitation counseling or related areas. Curriculum flexibility attracts students who are interested in modifying program requirements to reflect their special interests. All students must complete a 400 clock hour practicum.

Degree Requirements—Rehabilitation Education/Generalist Concentration

Bachelor of Science Degree

General Education Requirements 57
(Must include biology sequence)

Professional Education Requirements 59
RHB 201, 202, 301, 303, 304 20
RHB 401, 402, 403, 404, 407 28
ED 445; CNL 461, 467 11

Additional Concentration Requirements 30
ED 459 3
CNL 463, 464, 467 12
MGT 200 3
PSY 209, 431, 331 12

Related Requirements 21-23
MIS 103 3
Communication 6-8
BIO 105, 106, 107 12

Electives 30-32

Total* 192

*Because of an articulation agreement with Sinclair Community College, Clark Technical College, and North Central Technical College, graduates of their mental health/social services program may apply many of their previous courses to the mental health concentration. Other students must also complete related requirements listed in the generalist program.

Science Comprehensive Education

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 132, 133
Area Four—Natural Sciences
Select BIO 111, 112, 114

Professional Education Requirements 49-51

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 327, 302, 432, 464, 431, 321, 322, 323;
LCS 280, COM 101 21

Phase III
ED 422, 440, 429 16-18

Science Comprehensive Education Major Requirements 121.5

BIO 202, 302, 208, 209 19
Two of the following:
BIO 204, 205, 206, 303 10
CHM 121, 122, 141 15
CHM 211/215, 212/216, 213/217 18
GEO 201, 334 8
GL 251/252, 253/254, 255/256, 311 or 330, 333 or 331 21.5
PHY 123, 124, 240/200, 241/201, 242/202, 243, 260, 314 30

Total (minimum requirement) 234.5

*Field and clinical experiences required.

Social Studies Comprehensive Education

The social studies comprehensive program prepares students to teach integrated social studies and all component areas in which they have at least eighteen credit hours of course work. The program consists of basic and advanced courses in American history, world history, political science, economics, sociology, and geography; advanced courses in U.S. history and non-U.S. history; and a concentration of advanced courses in one or more social science fields.

Degree Requirements—Social Studies Comprehensive Education

Bachelor of Science in Education Degree

General Education Requirements 57

Professional Education Requirements 52-54

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 321, 322, 323, 327, 302, 432, 464, 439, 448; LCS 280; COM 101 24

Phase III
ED 422, 440, 429 16-18

Social Studies Comprehensive Education Major Requirements 87-91

History
American HST 211, 212, 300, 498 14
Nonwestern (Latin American, Asian, African) 6-8
Advanced American 6-8
Advanced European 4

General Studies
GEO 201, 202, 203 (choose two) 6
PLS 212, 222 8
EC 201, 202, 203 9
SOC 201, 202 6
ATH 240 3

Additional courses in two of the following areas: sociology, economics, geography, political science 25-31

Note: thirty-one general education hours are within the social sciences fields of study.

Total (minimum requirement) 192-202

Special Education

The undergraduate program at Wright State for teaching special education children and youth has as its purpose preparation of competent teachers to work with individuals exhibiting marked learning differences due to cognitive, psychomotor, or affective handicaps. Certifications can be earned in areas of specific learning disabilities (SLD), severe behavior handicapped (SBH), multiply handicapped (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.
Certification Requirements—Special Education

General Education 57
Area Two—Fine and Performing Arts
Select ART 214
Area Three—The Nonwestern World
Select CST 240
Area Four—Natural Sciences
Select BIO 105, 106, 107

Professional Education Requirements 58-60

Phase I
ED 221, 214, 216, 222, 218, 220, 223

Phase II
ED 327, 302, LCS 280; ED 464, 315, 316, 317, 311, 417, 437, 321, 322, 323

Phase III
ED 419, 422, 440

Content Curriculum 51
AED 431; COM 103; ED 241, 242, 243; ENG 342, 478; HPR 281, 331; MTH 243, 244; MUS 365;
GEO 201 or 202 or 203; HST 211, 212

Concentrations 10-27
Select one of the following special education certification areas:

Developmentally Handicapped
ED 442, 444, 445, 451, 454, 455, 456, 459

Multihandicapped
ED 443, 444, 445, 451, 453, 459

Orthopedically Handicapped
ED 443, 444, 445, 451, 452, 453, 455, 459

Severe Behavioral Handicapped
ED 442, 444, 445, 446, 451, 454, 455, 459, two additional graduate courses (counseling skills and clinical practice - 8 hours)

Specific Learning Disability
ED 442, 444, 445, 454, 455, 456, 459

Electives 0-8

Total 192-197

Visual Arts K-12

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 49-51

Phase I*
ED 214, 216, 218, 220, 221, 222, 223

Phase II*
ED 327, 302, 432, 464; AED 438; ED 321, 322, 323; LCS 280; COM 101

Phase III*
ED 422, 440, 429

Visual Arts Requirements 68
AED 214, 224, 423, 431, 432, 441
ART 206
ART 207, 208, 209, 226, 211, 212, 347, 348, 367 or 368 or 369
Electives chosen from AED 225, 424, 436, 437, 425, 426; ART 349, 258, 368, 369, 367, 278, 327, 213, 467, 468, 469

Electives 16-18

Total (minimum requirement) 192-197
Vocational Business Education

The vocational business education major will meet vocational business education certification requirements in the State of Ohio.

Degree Requirements—Vocational Business Education

Bachelor of Science in Education Degree

| General Education Requirements | 57 |
| Professional Education Requirements | 63 |

**Phase I**

| ED 214, 216, 218, 220, 221, 222, 223 | 12 |

**Phase II**

| ED 327, 302, 432, 464, 433, 434, 435, 407, 408, 321, 322, 323; LCS 280; COM 101 | 35 |

**Phase III**

| ED 422, 429, 440 | 16-18 |

Vocational Business Education Requirements | 92-94 |

| ACC 201, 202, 203 | 9 |
| LAW 350 | 3 |
| MIS 100 | 3 |
| CS 205, 141, 142 | 12 |
| EC 201, 202, 300 | 9 |
| ED 335 | 3 |
| ENG 330 | 3 |
| LCS 487 | 4 |
| MGT 301 | 3 |
| MKT 301, 302 | 6 |
| MTH 127 | 3 |
| OA 201, 202, 203, 211, 212, 213, 220, 301, 305, 401, 411 | 31-33 |
| Records Management | 3 |

**Total (minimum requirement)** | 212 |

*Field and clinical experiences required.*
Engineering and Computer Science
The College of Engineering and Computer Science offers programs leading to both bachelor's and master's degrees in several programs and a Doctor of Philosophy degree in computer science and engineering. The Bachelor of Science and Bachelor of Arts degrees are offered in computer science. The Bachelor of Science in Engineering degree is offered in biomedical engineering, electrical systems engineering, engineering physics, human factors engineering, materials science and engineering, and mechanical systems engineering. The college also offers a Bachelor of Science in Computer Engineering degree. A dual major program is available with the Department of Mathematics and Statistics.

One important objective of the programs is to best prepare students for the engineering and computer science professions. It is therefore important that students be pursuing a program that prepares them for present standards of the profession. To this end, the faculty reserves the right to periodically update the students' remaining program of study as the faculty recognizes the need to bring it in line with the latest program requirements.

Admission and Advising

All new students are assigned to the University Division for academic advising. Admission to a degree program in the college is contingent upon the student:

1. completing the first-year program requirements.
2. attaining a cumulative grade point average of at least 2.25.

Upon acceptance into a degree program, students will be assigned an academic adviser in the appropriate department who will assist them in developing a program of study.

Transfer students seeking admission to an engineering degree program must have transfer credit equivalent to the first-year requirements for the program. Transfer students not meeting this requirement will be assigned to the University Division or to a pre-engineering or pre-computer science program for academic advising.

Master of Science Degrees

The college offers graduate programs in systems engineering and computer engineering. The Master of Science in Systems Engineering degree program is broad in scope, offering students the opportunity to concentrate in biomedical, electrical, human factors, materials science, or mechanical course areas. The Master of Science in Computer
Engineering degree program emphasizes the theory and application of both hardware and software to design and implementation of computer systems. New students will be asked to indicate a primary area of interest so that an appropriate academic adviser and home department can be assigned.

Doctor of Philosophy Degree

The college offers a Ph.D. program in computer science and engineering. The program requires concentrated study in specific areas of computer science and engineering. The program’s strengths lies in its unique blend of faculty expertise, in the balance of theory with software and hardware design, and in the laboratory facilities available to the program.

Degree Requirements

To be eligible for the Bachelor of Science, Bachelor of Science in Engineering, or Bachelor of Science in Computer Engineering degrees, students must:

1. fulfill the university General Education requirements.
2. complete the residency requirement of forty-five credit hours at Wright State University, thirty of which must be earned in courses numbered 300 or above. At least fifteen of the last forty-five hours of the degree must be taken in residence.
3. 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 the major.
4. complete all the requirements in one of the programs of study established by the departments or within the college.

To be eligible for the Bachelor of Arts degree with a major in computer science, students must complete the requirements listed for the Bachelor of Science degree and must also complete at least twenty-seven hours in departments outside the College of Engineering and Computer Science and the College of Science and Mathematics. The level and type of courses to be taken are subject to the discretion and approval of the Department of Computer Science. These courses are in addition to those needed to fulfill the General Education requirements.

Honors Program

Honors programs are available in all departments. 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.

Cooperative Education Program

The cooperative education program permits students to integrate work experience into their academic program. Interested students should contact the Cooperative Education office.

Biomedical Engineering

Professors Rowley (chair), Petrofsky, Phillips, Cacioppo (visiting)
Associate Professor Hangartner
Assistant Professors He, Reynolds

The Department of Biomedical Engineering currently offers programs in biomedical engineering and human factors engineering leading to the Bachelor of Science in Engineering and Master of Science in Systems Engineering degrees.

A Doctor of Philosophy is offered through the biomedical sciences Ph.D. and the computer science and engineering Ph.D. degree programs.

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 that branch of applied science that is concerned with solving and understanding problems in biology and medicine using principles, methods, and approaches drawn from engineering science and technology.

In biomedical engineering, individuals are schooled in engineering design and analysis principles, experienced with life science concepts, and steeped in biomedical engineering. They receive a strong base in mathematics, chemistry, physics, computers, English, humanities, and engineering. The first two years develop the foundation courses which are similar to all engineering disciplines. The next two years develop design skills, instill the drive to advance our society technically, and begin the process of professional development.
Current efforts in biomedical engineering include the development of medical and surgical instrumentation systems, the design of rehabilitation assistive devices, the interfacing of complex systems in data collection and analysis, medical imaging, and the adaptation of computer technology to assist the health care industry.

Two separate curricula are available. Curriculum A is the basic degree program. Curriculum B is a premedical program that prepares students for application 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 Engineering Degree

General Education Requirements 67
Required substitutions:
MTH 132, 133
PHY 240/200, 241/201, 242/202

Engineering Requirements 89.5
BME 419, 420, 422, 428, 439, 440 20
BME 460 (waived for curriculum B) 3
BME 461, 462, 463, 464, 493 19
EGR 121 (waived for curriculum B) 2.5
EGR 153 4
ESE 320, 321, 322, 341, 425, 426, 441 29
MSE 212, 213, 315 12

Technical Elective 3
Elective must be at Engineering 300 or 400 level (waived for curriculum B).

Related Course Requirements 46
BIO 112, 208, 209 13
CHM 121, 122 10
CS 141, 142 8
MTH 231, 232, 233 15
Curriculum B additional courses 23
CHM 141, 211/215, 212/216, 213/217

Total Curriculum A 205.5

Total Curriculum B 220

Human Factors Engineering

Human factors engineering is concerned with the design and evaluation of machine systems for human use, with emphasis on the interface between the operator and the system. Three engineering analysis and design goals are to ease the burden placed on the human operator, to build more efficient machine systems, and to design for maintainability. These and other design principles are presented in courses such as engineering psychology, perception, control systems, cognitive processes, information processing, and research design. In addition, students receive a balanced education in engineering, mathematics, psychology, computer science, and general education.

Human factors engineers work in diverse areas such 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 engineering or psychology.

Degree Requirements—Human Factors Engineering

Bachelor of Science in Engineering Degree

General Education Requirements 71

Required substitutions:
MTH 132, 133
PHY 240/200, 241/201, 242/202
PSY 111, 112

Engineering Requirements 58.5
BME 306, 419, 471, 472 15
EGR 121, 153 6.5
ESE 320, 321, 322, 405, 425, 426 25
MSE 212, 213, 315 12

Technical Electives 16
Electives must be at the 300 and 400 level as approved by the program adviser. Courses may be taken in engineering, mathematics, and science but they must meet the program objectives.

Related Courses 57
CHM 121, 122 10
CS 141, 142 8
MTH 231, 232, 233 15
STT 360, 361 8
PSY 304, 307, 321, 371 16

Total 202.5

Computer Engineering

Professors Blakley (visiting), Brandeberry, Brown, Crum (chair), Dixon, McAulay, Petrofsky, Shenoi
Associate Professors Kohler, Purnhagen, Rattan, Ross, Sanders, Shock, Siferd
Assistant Professors Datta, Dobbs, Hemmendinger, Hura, Sudkamp

Instructors Birbal, Cotterman, Courte, Spargur

A program of study, fully accredited by the Accreditation Board for Engineering and Technology, leading to a Bachelor of Science in Computer Engineering degree is offered by faculty from the Departments of Computer Science and Electrical Systems Engineering. This program emphasizes the design and implementation of
A computer system incorporates many diverse elements including the computer, the interface, the firmware, the operating system, the system software, the applications programs, and even the apparent intelligence of the system.

The program in computer engineering provides a solid mathematics, basic science, and engineering science base that is common to all quality engineering programs. It emphasizes the theory and design of both hardware and software systems. Modern methodology for the design and verification of reliable, maintainable, real-time software is studied. Techniques for the design, breadboarding, testing, and implementation of computer hardware are stressed. The program allows a wide range of electives to strengthen individual specialties in theory, design, and/or applications.

Laboratories provide a facility for design, experimentation, observation, implementation, and discovery which ideally complement the theoretical portion of the program.

The graduate of this computer engineering program is prepared to supervise, design, and implement embedded systems employing computer hardware, software, and firmware.

Admission

Students are eligible for admission to the baccalaureate degree program in computer engineering when they have:

1. completed the freshman computer science sequence (CS 141, 142, 146).
2. attained a 2.25 grade point average in computer science and computer engineering courses.
3. attained a 2.25 grade point average overall in Wright State University courses.

When these requirements have been met, students will be advised by the computer engineering faculty. Until that time, they will be in pre-computer engineering and will be advised by the University Division or the College of Engineering and Computer Science.

Computer Engineering Honors Program

The honors program in computer engineering provides an opportunity for talented students to develop their interests and abilities by pursuing carefully coordinated programs of independent study that improve the breadth and depth of their educational experience.

To gain admission to the honors program in computer engineering, students must have:

1. an overall grade point average of 3.25.
2. completed four of the following six courses: CS 400; CEG 320, 360, 421, 430, or 431, or equivalent transfer hours.
3. senior standing (at least 136 hours earned, including accepted transfer credit).
4. at least three quarters of study remaining.
5. demonstrated academic excellence, strong self-motivation, perseverance, and in general the ability to pursue advanced study.

For additional information on the honors program, contact the computer science department.

Cooperative Education Program

The cooperative education program allows students to integrate work experience into their academic programs. The nonacademic credit model is available in this area.

Cooperative education students are expected to have completed the first two years of the computer engineering degree model program before beginning the work experience component. Students having completed only one year of the model program may be considered providing they have at least a 3.0 grade point average overall and in their major. Such students are strongly encouraged to take CEG 260 before the first work experience.

Degree Requirements—Computer Engineering

Bachelor of Science in Computer Engineering Degree

General Education Requirements 67

Required substitutions:

- MTH 132, 133
- PHY 240/200, 241/201, 242/202

Departmental Requirements 52

- CS 141, 142, 146, 400, 433
- CEG 260, 320, 360
- CEG 402, 421, 430, 431, 453

Engineering Requirements 41

- MSE 212, 213
- ESE 320, 321, 322
- ESE 341, 345, 441, 444, 449

Related Course Requirements 32

- CHM 121
- MTH 231, 232, 233, 253, 257
- PHY 300, 420

Electives 16

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

Total 208

The order in which science courses are taken is important. Students should obtain a model program sheet from the computer science departmental office or from their adviser. All programs should be planned in consultation with an adviser.
Computer Science

Professors Brandeberry, Brown, Crum (chair), Davis, Dixon, McAulay, Petrosky, Schaefer
Associate Professors Kohler, Purnhagen, Ross, Sanders, Shock, Siferd
Assistant Professors Dobbs, Hawley (WSU Lake Campus), Hemmendinger, Hura, Pollack, Rizki, Sudkamp
Visiting Professor Blakely
Instructors Birbal, Cotterman, Courte, Hollenbaugh, Moyer, Palmer, Snyder, Spargur, Thibeault

The computer science degree programs are designed to provide a blend of theory and practice in traditional and modern areas of computer science. The various programs allow students to combine a wide variety of courses in programming, data processing, and computer systems design with courses in business, engineering, science, mathematics, statistics, and other areas. The cooperative education program permits students to obtain supervised work experience that can be integrated with their academic course work.

The department offers both Bachelor of Science and Bachelor of Arts degrees in computer science. Each allows for a concentration in the discipline of the student's choice. A Bachelor of Science in Computer Engineering degree is offered jointly with faculty in the Department of Electrical Systems Engineering. All courses of study may be taken as cooperative education programs.

The Bachelor of Science and Bachelor of Arts programs prepare students for careers in computing by providing a thorough foundation of physical science, mathematics, and computer science. By selection of electives, students can tailor the program to match their special interests. The concentrations combine computer science with many areas of science, business, or the arts. The concentrations provide excellent backgrounds for the effective use of computers to solve practical problems.

Admission

Students are eligible for admission to the baccalaureate degree programs in computer science when they have:

1. completed the freshman computer science sequence (CS 141, 142, 146).
2. attained a 2.25 grade point average in computer science and computer engineering courses.
3. attained a 2.25 grade point average overall in Wright State University courses.

When these requirements have been met, students will be advised by the computer science faculty. Until that time, they will be in pre-computer science and will be advised by University Division or the College of Engineering and Computer Science.

Computer Science Honors Program

The department offers an honors program in computer science that provides an opportunity for intellectually gifted students to develop their interests and abilities by pursuing carefully coordinated programs of independent study that improve the breadth and depth of their background. To gain admission to the honors program in computer science, a student must have:

1. an overall grade point average of 3.25.
2. completed five of the following seven courses: CS 400, 466; CEG 320, 360, 421, 430, 431, or equivalent transfer hours.
3. senior standing (136 hours earned, including accepted transfer credit).
4. at least three quarters of study remaining.
5. demonstrated academic excellence, strong self-motivation, perseverance, and in general, the ability to pursue advanced study.

For additional information on the honors program, contact the computer science department chair.

Cooperative Education Program

The cooperative education program permits students to integrate work experience with their academic programs. The nonacademic credit model is available in this department.

Cooperative education students are expected to have completed the first two years of the computer science degree model program before beginning the work experience component. Students having completed only one year of the model program may be considered providing they have at least a 3.0 grade point average overall and in their major.

Degree Requirements—Computer Science

Bachelor of Science Degree

General Education Requirements

Required substitutions:
Area One—MTH 132, 133
Area Four—PHY 240/200, 241/201, 242/202

Computer Science Requirements

CS 141, 142, 146
CS 400, 466

Computer Engineering Requirements

CEG 260, 360
CEG 320
CEG 430, 431
Computer Science/Engineering Electives 24
Select from up to four hours of programming language workshops; CS 316, 317; CS and CEG 400-level courses
Mathematics/Statistics Requirements 19
MTH 231, 253, 257 11
STT 360, 361 8
Language Requirements 12
English (200 level or above) or foreign language*
Second Concentration Requirements 32
Thirty-two hours from a single liberal arts, mathematics, science, or engineering department or program, or a specified program approved by the computer science department. Eight hours must be computer applications.
Elective Requirements 7
Select from acceptable General Education list, or any 200-level and above course.
Total 201
*Includes comparative literature, linguistics, modern language humanities, and classics (CLS, CPL, DN, FR, GER, GR, ITA, JPN, LAT, LI, ML, POL, POR, RUS, SPN).

No course may count toward two distinct sets of degree requirements.

A model program showing a recommended order in which courses should be taken is available in the computer science office.

Degree Requirements—Computer Science
Bachelor of Arts Degree
General Education Requirements 67
Required substitutions:
Area One—MTH 132, 133
Area Four—PHY 111/101, 112/102, 113/103
Computer Science Requirements 20
CS 141, 142, 146 12
CS 400, 466 8
Computer Engineering Requirements 20
CEG 260, 360 8
CEG 320 4
CEG 430, 431 8
Computer Science/Engineering Electives 24
Select from up to four hours of programming language workshops; CS 316, 317; CS and CEG 400-level courses
Mathematics/Statistics Requirements 14
MTH 253, 257 6
STT 360, 361 8
Language Requirements 12
English (200 level or above) or foreign language*

Specific Programs
Business as a Second Concentration
Second Concentration Requirements 42
EC 201, 202, 203* 9
ACC 201, 202, 203 9
MGT 301, 302 6
MKT 301, 302 6
FIN 301, 302 6
MS 203, 341** 6
*Substitute for EC 200 in Area Four of the General Education Requirements.
**STT 360 and 361 are a substitute for the specified prerequisites for MS 203 and 341.

This concentration applies to either the Bachelor of Science or Bachelor of Arts program. However, for the Bachelor of Arts program, the language requirements are increased to sixteen hours. The elective requirements are eliminated in both programs. The addition of LAW 350 may qualify one for the formal business minor. Apply to the College of Business and Administration when applying for graduation.

Science Option as a Second Concentration
Second Concentration Requirements 36
MTH, ESE* 12
Courses from one mathematics, science, or engineering department program 24

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

This option applies only to the Bachelor of Science program.
Electrical Systems Engineering

Professors Shenoi (chair), Millman
Associate Professors Andrews, Bethke, Hannen, McCormick, Rattan, Siferd, Spalding
Assistant Professors Datta, Eppers, Kazimierczuk, Pujara

Instructor Aziz

The Department of Electrical Systems Engineering offers a program leading to the Bachelor of Science in Engineering degree in systems engineering with an electrical option. This program is fully accredited by the Accreditation Board for Engineering and Technology.

This program emphasizes the systems approach to engineering with a concentration in electrical systems. The early part of the program provides a good foundation in mathematics, chemistry, physics, engineering mechanics, electrical circuits, English, and general education. The major portion of the program deals with linear systems, control systems, communications systems, electronic systems, network synthesis, and electromagnetics. Engineering design is emphasized throughout with at least one capstone design sequence in controls, electronics, or communications required of all students in the program. All students have ready access to VAX and microVAX computers for classroom, laboratory, and project work. A wide range of electives are available, for example, in robotics, radar, very large scale integrated (VSLI) circuits, reliability, vibrations, flight control, and microprocessor control.

Admission and Advising

For admission to a degree program in the Department of Electrical Systems Engineering, students must have completed the first-year requirements for the program. Students completing these requirements at Wright State must have attained a grade point average of 2.25. All students accepted into the department will be assigned an academic adviser.

Honors Program

An honors program is available to all qualified students in the department. This program provides the opportunity for talented students to advance their knowledge beyond the provisions of the regular curricula. For additional information on the honors program, contact the department chair.

Cooperative Education Program

The cooperative education program permits students to integrate work experience into their academic program. Interested students should contact the Cooperative Education office.

Degree Requirements—Systems Engineering/Electrical Option

Bachelor of Science in Engineering Degree

General Education Requirements 67

Required substitutions:
MTH 132, 133
PHY 240/200, 241/201, 242/202

Engineering Requirements 72.5
EGR 121, 153 6.5
MSE 212, 213, 315 12
ESE 320, 321, 322, 324, 341, 345, 346, 351 30.5
ESE 421, 425, 435, 441, 444 19.5
CEG 411 4

Related Course Requirements 39
CHM 121, 122 10
CS 141, 142 8
MTH 231, 232, 233, 253 18
STT 363 3

Technical Electives* 8

Engineering Technical Electives** 21

Design Sequence I
ESE 449, 451, 454 12

Design Sequence II
ESE 426, 427 8

Design Sequence III
ESE 473, 474 7

Total 207.5

*Technical Electives are approved by an adviser and normally taken in the Colleges of Engineering and Computer Science, Science and Mathematics, or Business and Administration. Courses must be at the 200 or higher level and redundant courses such as CS 205, MTH 200, and MS 201 are specifically excluded.

**Engineering technical electives approved by an adviser and taken in the College of Engineering and Computer Science. All courses must be 300 level or higher and at least one of the design sequences is required.

The order in which engineering courses are taken is important. Students should obtain a program guide from the electrical systems engineering office or from their adviser. All programs should be planned in consultation with an adviser.

Engineering Physics

Engineering physics is an interdisciplinary program offered jointly by the Department of Electrical Systems Engineering, which administers the program, and the Department of Physics. The program contains a core of engineering science, mathematics, and physics courses. This prepares students for conceptual design, research, and development work in industry, or for graduate work...
in electrical engineering, mechanical engineering, nuclear engineering, aerospace engineering, physics, or a combination of these.
The engineering physics program differs from the systems engineering/electrical option program in that while much of the subject matter is the same, a portion of it is taught in the physics department where it receives a generalized theoretical treatment. For engineering physics majors, a technical elective is defined as any course offered by either the College of Engineering and Computer Science or the College of Business and Administration except EC 201, 202, 203, and ESE 405.
The order in which engineering and technical courses are taken is very important. Because of this and various options open to students, a program guide should be obtained from the electrical systems engineering office and one of the physics department advisers consulted for curriculum planning. Students’ total hours may vary from the hours shown because of elective course choices.

Degree Requirements—Engineering Physics
Bachelor of Science in Engineering Degree

General Education Requirements 67
Required substitutions:
MTH 132, 133
PHY 240/200, 241/201, 242/202

Engineering Requirements 55-57
EGR 121, 153 (or CS 210) 6.5
MSE 212, 315 8
(PHY 420 may be substituted for MSE 315)
ESE 231, 320, 321, 322, 341, 351 20.5-21.5
ESE 421, 425, 426, 499 20-21
(Nine hours of PHY 499 may be substituted for eight hours of ESE 499)

Physics Requirements 31-33
PHY 243, 260 6
PHY 316, 371, 372 9
PHY 450, 451, 452, 460, 461 16-18
(Students may select either PHY 460, 461, or PHY 300, 301)

Related Course Requirements 39
CHM 121, 122 10
CS 141, 142 8
MTH 231, 232, 233, 253, 333 21

Technical Electives 12-14
Chosen from three of the following courses:
CEG 411; ESE 441; MSE 317, 318; PHY 322, 332

Total 204-210

Mechanical Systems Engineering

Professors Dadras, Faghn, Hankey, Jankowski (Emeritus), Lipsitt, Rolsten, Thomas (chair)
Associate Professors Bethke, Spalding, Weiss
Assistant Professors Bose, Friar, Grandhi, Mehrotra
Research Assistant Professor Srinivasan

The Department of Mechanical Systems Engineering offers programs leading to the Bachelor of Science in Engineering degree in materials science and engineering and systems engineering/mechanical option. Both programs are fully accredited by the Accreditation Board for Engineering and Technology.
The programs in the Department of Mechanical Systems Engineering present a broad coverage of traditional engineering fundamentals relevant to the departmental programs and develop the skills required for modern engineering analysis and design. Laboratory experience and computer usage are integrated throughout the curriculum. Students have ready access to VAX and microVAX computers as well as a microcomputer laboratory for CAD and related engineering analysis. Laboratory facilities cover the areas of computer-aided design, strength of materials, fluid mechanics, heat transfer, control systems, robotics, vibrations, metallography, scanning electron microscopy, materials testing, and manufacturing processes. Both departmental programs require students to complete a capstone design project during the senior year.

Admission and Advising
For admission to a degree program in the Department of Mechanical Systems Engineering, students must have completed the first-year requirements for the program. Students completing these requirements at Wright State must have attained a grade point average of 2.25. All students accepted into the department will be assigned an academic adviser.

Honors Program
An honors program is available to all qualified students in the department. This program provides the opportunity for talented students to advance their knowledge beyond the provisions of the regular curricula. For additional information on the honors program, contact the department chair.

Cooperative Education Program
The cooperative education program permits students to integrate work experience into their academic program. Interested students should contact the Cooperative Education office.
Systems Engineering/Mechanical Option

Students in the systems engineering/mechanical option program obtain the B.S.E. degree in systems engineering by following the mechanical systems curriculum option. The systems engineering/mechanical option program combines traditional mechanical engineering course requirements with an emphasis on modern analytical and computer-aided approaches to problem solving and engineering design. In addition to courses in basic science, mathematics, English, and liberal arts, required engineering courses cover fundamental areas such as engineering mechanics, electric circuits, thermodynamics, fluids and heat transfer, materials, linear systems, control systems, and mechanical design. Advanced electives are available in areas such as finite element methods, energy conversion, flight control, and robotics. Students completing the systems engineering/mechanical option program seek employment or pursue graduate study in mechanical engineering or related areas such as aerospace.

The systems engineering program/mechanical option is fully accredited by the Accreditation Board for Engineering and Technology.

Degree Requirements—Systems Engineering/Mechanical Option

Bachelor of Science in Engineering Degree

General Education Requirements

- Required substitutions:
  - MTH 132, 133
  - PHY 240/200, 241/201, 242/202

Engineering Requirements

- EGR 121, 153 6.5
- ESE 320, 321, 405, 425 18
- MSE 212, 213, 313, 315, 316, 317, 318
  - 360, 370, 371 9
- MSE 407, 414, 415, 490, 491 19

Related Course Requirements

- CHM 121, 122 10
- CS 141, 142 8
- MTH 231, 232, 233, 253 18
- STT 363 3

Technical Electives* 18

Total 206.5

*Of these, nine to eighteen hours, but not less than three courses, must be selected from a list of approved engineering electives. The remaining hours must be selected from approved courses at the 200 level or higher in the Colleges of Engineering and Computer Science, Science and Mathematics, or Business and Administration.

Materials Science and Engineering

Materials science and engineering encompasses a broad range of engineering activities. The development of new materials, such as advanced composites for aircraft, and the correct use of common materials, such as steel or plastic for structures or silicon for integrated circuits, illustrate this diversity. Processing, testing, product design, manufacturing, and research are frequent responsibilities of the materials engineer.

The Wright State materials program leads to the B.S.E. degree. It provides a broad background in the fundamentals of materials science in addition to careful instruction in engineering skills necessary to develop and use materials. Computer applications are integrated throughout the curriculum. Required courses cover materials behavior, materials processing, metallurgy, polymer chemistry, ceramics, and materials engineering design.

The materials science and engineering program is fully accredited by the Accreditation Board for Engineering and Technology.

Degree Requirements—Materials Science and Engineering

Bachelor of Science in Engineering Degree

General Education Requirements 67

Required substitutions:
- MTH 132, 133
- PHY 240/200, 241/201, 242/202

Engineering Requirements 71.5

- EGR 121, 153 6.5
- ESE 320 5
- MSE 212, 213, 313, 315 16
- MSE 370, 371, 375, 376, 385, 386 17
- MSE 477, 479, 483, 492 (8 credit hours) 19
- MSE 485, 486, 487, 488, 489 (select any two) 8

Related Course Requirements 41

- CHM 121, 122 10
- CS 141, 142 8
- MTH 231, 232, 233 15
- CHM 361, 465, 467 8

Technical Electives 29

Includes twenty-two credit hours to be selected from an approved list.

Total 208.5
Liberal Arts
The College of Liberal Arts offers a wide variety of degree programs in the fine arts, the humanities, and the social sciences. The college also assists in preparing students for professional and graduate study and cooperates with other colleges in offering joint professional and preprofessional programs. In addition, the college offers the major portion of General Education courses that comprise a fund of knowledge basic to students' ability to formulate and analyze ideas and concepts. This core of knowledge is the nucleus of a liberal education.

Programs leading to the Bachelor of Arts degree are offered in anthropology; art and art history; classical humanities; communication; economics; English; French; geography; German; Greek; history; Latin; motion picture history, theory, and criticism; music; philosophy; political science; religion; selected studies; social and industrial communication; social work; sociology; Spanish; theatre studies; and urban affairs. Programs leading to the Bachelor of Fine Arts degree are offered in acting, art, dance, design/technology, directing/stage management, motion picture production, selected studies, and theatre arts management. A program leading to the Bachelor of Science degree is offered in geography and urban affairs. Programs leading to the Bachelor of Music degree are offered in applied music, music composition, music education, music history and literature, and music theory. The college offers minors in anthropology, classical humanities, communication, French, geography, German, history, music, political science, religion, and Spanish. Students who meet the university requirements with reference to registration, residence, scholarship, fees, and General Education and college requirements, and who maintain a satisfactory record, receive degrees appropriate to the curriculum completed.

The college offers graduate programs leading to the Master of Arts degree in English and history, the Master of Humanities degree, and the Master of Music degree in music education, and participates with the College of Science and Mathematics in a multidisciplinary program leading to the Master of Arts degree in applied behavioral science.

Admission and Advising

Admission Requirements

Admission to the College of Liberal Arts requires the satisfactory completion of twenty-four credit hours and a grade point average of 2.0. Some departments have additional requirements for admission. Students not meeting such criteria are designated as Undecided Liberal Arts.
Transfer Credit

Credits earned in junior or community colleges will normally apply only to the requirements of the freshman and sophomore years. Students should consult their departmental adviser to see which transfer courses will apply toward specific major requirements.

Advising

The liberal arts advising office advises all undecided majors in liberal arts. The office sends out checksheets covering university and college requirements to all new students in the college and to seniors at the appropriate time. Students who have declared a major in one of the liberal arts disciplines are assigned an academic adviser in that discipline. Students are encouraged to consult with departmental advisers for their major and with the advising office for their college and university requirements.

Degrees and Areas of Study

General Requirements

To be eligible for a degree from the College of Liberal Arts, students must:

1. fulfill the university General Education requirements.
2. complete the residency requirement of forty-five credit hours at Wright State. At least fifteen of the last forty-five 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 eight hours of physical education courses will apply toward the degree.
4. complete at least one hundred credit hours of work within the college.
5. complete at least sixty credit hours in upper division courses (those numbered 300 and above). At least thirty of these credit hours must be taken at Wright State.

The Bachelor of Arts Degree

Successful study for the Bachelor of Arts degree includes the development of basic skills as well as a general introduction to issues of the culture. The degree provides career opportunities in such areas as communications, foreign service, government, journalism, teaching, and social work, and preprofessional training for such fields as law, medicine, and business.

In addition to requirements of the major, composed of a departmental unit in courses taken in one or more departments, the Bachelor of Arts degree includes completion of the foreign language or research methods requirement. Except in unusual circumstances students are limited to sixty-eight hours in the major department. Exceptions must have prior approval of the dean of the college. To satisfy the foreign language requirement, students must demonstrate proficiency at the 202 level in a foreign language either by satisfactorily completing course work or by examination. Students who wish to fulfill the college language requirement in French, German, Spanish, or Russian by proficiency testing should consult the Department of Modern Languages; students who wish to fulfill the requirement in Greek or Latin should consult the Department of Classics. Other languages are acceptable, subject to approval by the Department of Modern Languages and students' major department. In continuing a language begun elsewhere, students are placed at an appropriate level. For details on proficiency and placement testing, see guidelines under Department of Modern Languages. Students who select the research methods option must complete twenty-one to twenty-four credit hours, approved by their major department, distributed as follows: computer science (two courses); philosophy (two courses); statistics (two courses). These students should check with the department or the advising office for further details. One or the other requirement must be satisfied in its entirety; they may not be mixed.

Bachelor of Fine Arts, Bachelor of Science, and Bachelor of Music Degrees

Bachelor of Fine Arts

The curricula for the B.F.A. degree provide more specialized training than that offered in the B.A. programs. The Bachelor of Fine Arts programs in art and in theatre arts are preprofessional programs with intensive concentrations in the departmental major and related concentrations in the creative arts.

Bachelor of Science

Curricula for the Bachelor of Science degree are offered in geography and urban affairs. Those programs should be planned in close consultation with advisers in these areas. The B.S. degree attempts to achieve a different focus, especially in the areas of computer programming, mathematics, and statistics, and to meet needs not currently serviced by the B.A. degree.
Bachelor of Music

This degree is designed for students who are seeking a professional career in music. Consequently, the B.Mus. major is a more concentrated, more highly structured program than the program for the B.A. The Bachelor of Music in applied music requires language competence in either French, German, or Spanish. The Bachelor of Music in theory requires language competence in either French or German. The Bachelor of Music in history and literature requires language competence in French, German, or Latin. For further details, see the Department of Music.

In addition to the university and college degree requirements, students should always consult the requirements of the curriculum specified by the appropriate department.

Interdisciplinary Study

Interdisciplinary majors within the College of Liberal Arts are offered in selected studies and urban affairs.

Interdisciplinary course work, offered jointly by participating departments within the college or with departments in other colleges, is available in the Departments of Art and Art History, Classics, Communication, English, Geography, History, Philosophy, Political Science, Religion, Sociology, and Anthropology, and Urban Affairs. See individual programs and course listings.

Minors within the Liberal Arts

An official designated minor program within the college is a structured and coherent secondary concentration of study. It is intended to allow undergraduates the option of presenting a second field of specialization in addition to a major as part of their permanent record at the university. The minor consists of about 30 credit hours and must have a balance of lower and upper division courses. Further details can be obtained from the department concerned or the college advising office. Minors are offered in anthropology, classical humanities, communication, French, geography, German, history, music, political science, religion, and Spanish.

Combined Liberal Arts/Business Program

While working on the satisfactory completion of a baccalaureate degree program in the College of Liberal Arts, students can use free elective credits to take a professional core of business courses to earn a minor in business and satisfy the course prerequisites for the Master of Business Administration program. Students with an adequate Admission Index can then earn an M.B.A. degree from the College of Business and Administration with an additional (fifth) year of successful full-time study. Contact the liberal arts advising office for details.

Health Sciences Minor

Degree requirements in the College of Liberal Arts permit students to complete both the core of premedical science requirements and a major of their choice. Majors in liberal arts is an excellent way to help develop the broad range of intellectual and intuitive skills that make successful physicians. For a sample four-year curriculum, contact the liberal arts advising office.

Honors at Graduation

Honors are awarded at graduation to students in recognition of the superior quality of their work. Currently, departmental honors programs are available in anthropology, art history, classics, communication, English, geography, history, modern languages, motion pictures, music, political science, religion, selected studies, social work, and sociology. Students interested in pursuing an honors program as prescribed by one of these departments should consult with the chair of the appropriate department.

Cooperative Education Program

A number of departments in the College of Liberal Arts offer an optional cooperative education program for academic credit. (See the Liberal Arts listing in the course descriptions section.) Cooperative education is a plan which combines academic study with related work experience. As a result, participation in cooperative education provides students with an opportunity to apply classroom learning and interest to practical work settings while exploring potential career fields. For more information, see the specific Liberal Arts department programs and contact the Liberal Arts cooperative education coordinator in the Cooperative Education office.

Teacher Certification

The Bachelor of Arts degree with Ohio teacher certification is offered in art, English, and history for students who meet the requirements of the College of Liberal Arts and the College of Education and Human Services. Certification in speech and theatre education is available to students who combine it with English as a second teaching field. French, German, Latin, and Spanish may be elected as second teaching fields only. These candidates are counseled in their academic programs by faculty advisers in the College of Liberal Arts and in their choice and fulfillment of professional education requirements by advisers in the College of Education and Human Services. Prospective teachers who wish to pursue the Bachelor of Science in Education degree with a major in one of the liberal arts disciplines should register in one of the teacher education curricula in the College of Education and Human Services and indicate their choice of teaching fields. See individual programs under College of Education and Human Services.
Anthropology
See Sociology and Anthropology

Art and Art History

Professor Cantelupe (University, Emeritus), Macaulay

Associate Professors Fitch, Geibert, Kiser, Koerlin, Ladis, Leach (chair), McDowell, Must, Nathanson

The Department of Art and Art History offers programs leading to the Bachelor of Arts and the Bachelor of Fine Arts degrees, with areas of concentration in art history, drawing, painting, photography, printmaking, and sculpture; and with course sequences in visual communications and museology/gallery management. The B.A. degree is designed for those 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 in art.

Because self-expression and self-learning are ultimate goals of the program, students are largely responsible for determining the options which best meet 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 will direct and accelerate development in the visual arts. One resource which students bring to the program is their personal sensibility and understanding. The program aids in expanding and expressing these qualities by exploring the essential processes and language basic to all visual arts. Rather than following a system or structure of independent courses in a given dimension, medium, or discipline, issues and ideas are investigated 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 forty and sixty credit hours in the department. Those who wish to become B.F.A. candidates must petition the faculty at the time of their review. The department will notify those students in writing of its decision. Students who do not meet the basic proficiency standards of the department during their first review may petition to have a second review of their work prior to the completion of eighty-four credits in art. All candidates for the B.F.A. degree must make a senior presentation of their work, and be represented in the senior exhibition.

Art History Honors Program

The honors program of the Department of Art and Art History is designed to give students who have demonstrated outstanding academic ability and superior accomplishments in art history the opportunity to complete a program which will encourage and recognize their distinguished efforts. Such students may earn an honors degree by completing the departmental major requirements, by maintaining a high academic record, and by successfully completing a senior honors project. Information regarding eligibility, application procedures, and specific requirements may be obtained from the Department of Art and Art History office. Students are usually admitted to the program during the fourth quarter prior to graduation.

Degree Requirements—Art

Bachelor of Fine Arts Degree

General Education Requirements 57

Departmental Requirements* 122

ART 211, 212, 213 and three additional art history courses 24

Ten courses, two from each of the following studio areas: drawing, painting, printmaking, sculpture, photography 40

Five additional courses in area of major concentration 20

Junior seminar 2

Departmental studio electives 24

Departmental or related electives 12

Nondepartmental Electives 13

Total 192

* B.F.A. degree students should enroll in two studio courses each quarter.

Sophomore Review Minimum Requirements

ART 211, 212, 213 12
ART 206, 228 8
ART 207, 258 8
ART 208, 278 8

One additional studio course 4

Total 40

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 specific requirements as outlined by the laws and regulations governing Ohio teachers' education and certification.
102 L1beral Arts/Art and Art History

Degree Requirements-Art

Classics

Bachelor of Arts Degree

Associate Professors C. King , W. King

General Education Requirements

57

Departmental Requirements

68

ART 211 , 212 , 213 and one additional art
h1story course
E1ght courses, two each from four of the
follow1ng stud1o areas : draw1ng . paintin ,
pnntmaking , sculpture , photography
Departmental elect1ves

Assistant Professor Gabbert (cha1r)

16

32
20

Foreign Language or
Research Methods Requirement

20-24

Nondepartmental Electives

43-47

Total

192

Degree Requirements­
Art History
After complet1on of seven art history courses
and pnor to graduation , art history majors are
required to participate in a writing workshop
conducted by art history faculty members . The
workshop may requ1re expansion or further
mvest1gation of a paper submitted for a completed
400-level course .

Bachelor of Arts Degree
General Education Requirements

57

Departmental Requ irements

68

ART 211 , 212 , 213, 219. and one course in
art theory , art philosophy, or art criticism
One course each from four of the following
art history areas· Amencan . ancient­
classical . medieval , Renaissance ,
Baroque , nineteenth century , twentieth
century , nonwestern
Three courses , one each from three of the
fol lowing stud1o areas· draw1ng , pa1nt1ng ,
pnntmak1ng , sculpture , photography
Departmental elect1ves

20

16

12
20

Foreign Language Requirement

20

Nondepartmental Electives

47

Total

192

The Department of Class1cs offers majors
leading to the Bachelor of Arts degree 1n class1cal
humanities and in classical languages (Greek or
Latin)
The study of the classics is concerned with the
examination of the Clvil1zat1ons of Greece and Rome .
It 1s the oldest area-study and students must ran e
through the disciplines of langua e and literature,
art, archaeolo y, and history to appreciat fully the
contnbutions of Gre ce and Rome to western
CIVIliZation
Requ1rements for the major 1n class1cal
human1ties are qu1te flexible , but 1t 1s adv1sable for
students to consult the Department of Class1cs 1n
order to ensure a well-rounded and representat1ve
curriculum . The one inflexible reqUirement IS study of
Latin or Greek on the college level ; the classical
humanities major must complete at least twenty-four
hours of language study and attain proficiency in at
least one of the languages beyond the 202 level.
Students may also major in either Greek or Latin ;
students will be expected to develop some facil1ty 1n
the nonmajor language .
The major in classical humanities is a useful
major for those who have not decided upon a
specific vocation and who are interested in the
humanities. A bachelor's degree in classical
humanities is suitable for students who plan to
terminate their formal education at the
undergraduate level. The major 1n class1cal
languages is more suitable for students who w1sh 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 class1cal
languages will f1nd the bachelor's degree useful 1n
any position for wh1ch a liberal arts degree is
appropriate.
Early consultatiOn with the Department of
Class1cs 1s important for students who w1sh to teach
Lat1n or Greek in secondary schools They w1 ll also
need to consult the College of Educat1on and
Human Services for profess1onal certification
requirements in an additional teaching field , such as
English or history.

Classics Honors Program
Superior students may , upon applicat1on to the
Department of Classics, participate 1n the
departmental honors program . They should have a
grade point average of 3.5 in classics and 3.0
ove rall and should have completed a substantial
portion (twenty-seven to thirty hours) of the major
requirements . For further details, consult the
department.


Communication

**Professors** Byrum, Pruett, Rickert, Sayer (chair), Shupe

**Associate Professors** Dreher, Eakins, Edwards, Fetzer, Orenstein

**Assistant Professors** DeStephen, Ervin, Hanks, Krischak (WSU Lake Campus, Spicer)

**Instructor** Higgins

Study in the Department of Communication provides a comprehensive understanding of communication. Specifically, students develop skills to communicate effectively in interpersonal, group, and organizational settings.

The Bachelor of Arts in communication is desirable for persons planning a communication-related career and/or individuals interested in personal development. Therefore, the department offers major programs of study 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 major areas of the department to meet 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 affecting organizational productivity.

The communication major can expect to be involved in both theoretical and practical courses of study, and to understand communication from both the traditional and experiential points of view. Because of this interrelationship between theory and practice, students are advised to take advantage of the communication activities associated with the department, college, and university. Such activities include cable television, WWSU-FM radio station, The Daily Guardian, the Public Relations Club, Rolling Stock, communication assignments through the College of Liberal Arts cooperative education program, and involvement in Dayton area professional organizations.
Communication Honors Program

The honors program of the Department of Communication provides opportunities for advanced study to outstanding students. The program is intended as an enrichment for the existing program rather than as an alternative. The immediate goals for which individual student programs are constructed include: (1) developing abilities in conceptualization, research, and analysis, and (2) pursuing one or more selected areas of interest in the field of communication studies.

Entrance to the program requires students to have completed forty credit hours in communication. In addition, students must have a grade point average of 3.5 in the major and 3.0 overall. Departmental honors will be awarded upon the completion of the required number of hours necessary for a major in communication and must include at least twelve credit hours in approved communication honors courses. Students must also complete a departmental honors project and maintain a 3.0 cumulative grade point average and 3.5 grade point average in communication courses during the quarters in which they are members of the honors program.

It is highly recommended that students participate in the University Honors program, taking courses deemed relevant by the students and the adviser.

Cooperative Education Program

Cooperative education experience is available to qualified communication majors in both the public and private sectors. Cooperative job opportunities exist in the areas of mass communication, interpersonal and organizational communication, and public communication. Cooperative education offers students a means of partially financing their education while gaining career-oriented experiences. Students interested in cooperative education opportunities should contact the chair of the department.

Degree Requirements—Communication

Bachelor of Arts Degree

The major in communication is for students interested in personal development and/or a career in education, industry, or government.

Communication majors are expected to achieve basic proficiency in communication skills and to master the essentials of communication theory. All communication majors must take twenty-four hours of required courses, as well as a minimum of forty 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 57

Departmental Requirements 64

Required courses:
COM 101, 102, 111, 141, 152, 203, 233 21
Additional electives in major 43

Foreign Language or Research Methods Requirement 20-24

Electives 47-51

Total 192

Communications Major Curricula

Communication Studies

The aim of the communication studies major is the development of broadly trained students in the liberal arts. Students are encouraged to develop abilities as effective communicators and as informed critical receivers. The communication studies major permits students maximum freedom of choice in designing their programs of study and areas of specialization.

Communication Studies Major Requirements 43

Select courses in the Department of Communication of which at least twenty-four hours must be at the 300 level or above.

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 43

Major Core Requirements
COM 251, 254, 256, 460 13

Electives in major to be selected from the following: COM 358, 360, 366, 411, 454, 458, 462, 464 20

Electives selected from other courses in the department 10

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 43

Major Core Requirements
COM 443, 445, 447, 449 16
Electives in major to be selected from the following: COM 343, 345, 347, 441, 451, 453, 455 16
Electives selected from other courses in the department 11

Minor in Communication
The communication minor is appropriate for students who want additional skill development in communication or for whom theoretical understanding of communication processes will serve as a useful adjunct to a major program of study. Students in business, computer science, education, and nursing, in addition to students majoring in other areas of the liberal arts, may find the minor in communication enhances them both professionally and personally.

Requirements 36
Required Courses
COM 101, 102, 111, 141, 152, 203, 233 21
Additional Courses in Communication
At least eight hours must be at the 300 level or above 15

Dance
See Theatre Arts

Economics

Professors Anon, Blair, Fabrycy, Kumar, Premus, Renas, Sav (chair), Treacy
Adjunct Professor Verdon
Associate Professors Blake, Fichtenbaum, Swaney
Assistant Professors Dung, Shahidi
Adjunct Assistant Professor Crawford

The dimensions of economics range from the practical concerns of how a business firm strives for efficiency to the visionary questions concerning limits imposed by the laws of nature on the earth's population and natural resources. Economics focuses on humanity's efforts to improve its welfare, by understanding individual decision making in the face of relative scarcity and by studying the complex relationships between the production, consumption, and distribution of material goods within systems of markets, governments, and supranational institutions.

Students of economics develop the ability to reason logically, integrate broad perspectives, measure empirically, manipulate in the abstract, and imagine grandly. These skills and talents serve well in preparing students for careers in business, law, and government. Graduates of our program are business executives, bankers, attorneys, judges, professors, and hold positions as professional economists in such diverse areas as urban economics, manpower and training analysis, business forecasting, school finance consulting, health and delivery systems evaluation, budget analysis, marketing consulting, government planning, and statistical analysis. Some of our graduates continue their education in our master's program in social and applied economics.

The program outlined below is designed to give our students both the background that will broaden and maintain their future options and the specific skills necessary to use and apply economic ideas. Departmental undergraduate advisers are available to students who may need advice about formulating and attaining career goals, as well as making decisions concerning elective courses.

Candidates for a Bachelor of Arts degree with a major in economics are required to take a minimum of forty-two 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 33
EC 201, 202, 203 (counted above) 12
Economics electives 21

Related Requirements 29
CS 205 4
MTH 129, 228 8
MS 201, 202, 203 9
Two upper-division courses in one of the following areas: political science, philosophy, English, psychology, sociology, geography, or history 8

Foreign Language or Research Methods Requirement 15-20
Electives 47-52

Total (minimum requirement) 192


English Language and Literatures

**Professors** Baker (Emeritus), Bracher (chair), Cantelupe (Emeritus), N. Cary, Harden, Howard, Hughes, Hussman, Pacernick, Pringle, Swanson, Whissen

**Associate Professors** C. Cary, Correale, Gleason, Limouze, Maner, Sammons

**Assistant Professors** Hagen (Emeritus, WSU Lake Campus), MacDonald, Moliterno (WSU Lake Campus), Snyder (WSU Lake Campus), Zurlo (WSU Lake Campus)

**Adjunct Associate Professor** Buzzard

**Adjunct Assistant Professors** Dobson, Roller

The English major provides a balanced program of elementary and advanced work in English and American literature, English language and linguistics, and writing. The program offers the opportunity for systematic study of a major humanistic discipline as well as sound professional training for those planning high school teaching or graduate work. The program is also an excellent background for students interested in entering professional schools or planning business careers.

In choosing electives, students should try to elect, in consultation with the departmental adviser, courses that supplement or complement their major interest and form a coherent unit of study or that provide an appropriate career-oriented concentration. English majors must also satisfy a foreign language or research methods requirement by completing the second-year course (202) in a foreign language, by proficiency examination, or by courses chosen from the research methods core.

Candidates for certification in high school and junior high school English teaching may earn a Bachelor of Arts degree by completing the language or research methods requirement described above and distributing their English courses as outlined 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 adviser in the College of Education and Human Services to ensure fulfillment of the necessary requirements for certification.

**English Honors Program**

The honors program in English is designed to encourage and recognize superior academic accomplishments by undergraduate English majors. With the approval of the chair of the English department and the departmental honors adviser, students who meet the standards of eligibility may be admitted to the English honors program before the beginning of the 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.

Upon entering the program, students will choose, as senior honors tutor, any member of the English department faculty of professorial rank who agrees to direct the students’ honors project. The tutor will be officially assigned to them by the department and the departmental honors adviser. While working on the honors project, students will consult regularly with the tutor by enrolling in English 498 and English 499.

The honors project will consist of work during at least two successive academic quarters. Credit for this work will be noted by grades for English 498 and 499. The project will culminate in the writing of an honors thesis or project report. This thesis or report will be evaluated by a committee comprised of the student’s honors tutor, the departmental honors adviser, and one other English department faculty member of professorial rank.

**Certificate Program in Professional Writing**

A certificate in professional writing is available to all students who successfully complete twenty hours of approved writing courses. The certificate program, which can be taken as a supplement to the English major, prepares students for careers as writers and editors. Please contact the departmental office for further information.

**Certificate Program in TESOL**

A certificate program in Teaching English to Speakers of Other Languages is offered by the Department of English in cooperation with the College of Education and Human Services. Six courses provide the requisite knowledge of language and TESOL methods and a practicum. Interested students should contact the department office for further information.
Degree Requirements—English Bachelor of Arts Degree

General Education Requirements 57

English Major Requirements 52

ENG 255, 256 8
ENG 351 or 352; 353 or 354; 355 or 356 or 357; and one other course from 351 through 357 group 16
At least three of the following courses, each from a different category:
ENG 410, 420, 430, 440, 450, 460, 490 12
Three additional 300- and/or 400-level courses 12
One course in linguistics (ENG 478 or 479) 4

Foreign Language or Research Methods Requirement 20-24

Electives 59-63

Total 192

Degree Requirements—English with Certification Bachelor of Arts Degree

General Education Requirements 57

English Major Requirements 51-52

ENG 203, 204, or 490, or CST 230 3-4
ENG 255 4
ENG 341 4
ENG 478 or 479 4
ENG 351 or 352; 353 or 354; 355, 356, or 357, and one other course from 351 through 357 16
At least three of the following (each from a different category):
ENG 410, 420, 430, 440, 450, 460, 490 12
An elective in literature at the 300 or 400 level 4
An elective in composition or linguistics 4

Professional Education Requirements 49-51

Phase I
ED 214, 216, 218, 220, 221, 222, 223 12

Phase II
ED 327, 302, 432, 464, 423, 321, 322, 323 15
LCS 260 3
COM 101 3

Phase III
ED 429, 422, 440 16-18

Foreign Language or Research Methods Requirement 20-24

Electives 8-15

Recommended: HST 321, 322; or HST 475, 480

Total (minimum requirement) 192

Geography

Professor Oshiro (chair), Ray (Emeritus)
Associate Professors Clemens, Mazey
Assistant Professor Wetter (WSU Lake Campus)

The Department of Geography seeks to provide students with an awareness and understanding of the spatial organization and distribution of phenomena in the physical and human world. Because of its emphasis on spatial organization and distribution, geography is an integrative discipline that has a broad interdisciplinary base ranging from the natural to behavioral science. Such topics as cartography, climatology, landform analysis, settlement theory, spatial interaction, and urban morphology indicate the breadth of contemporary geography.

The geographer must take account of historical and cultural processes including people's diverse attitudes toward the earth and how these have changed through time. In addition, the geographer must consider economic and social processes which influence such geographical conditions as industrial location, population distribution, urban spatial structure, settlement patterns, and the use of resources. Also, the geographer must be able to employ the data of natural science, or be intimately concerned with the data of social science and the complexities of philosophy.

The undergraduate major in geography thus 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 provides options which allow 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 of courses leading to a Bachelor of Arts degree or Bachelor of Science degree.

The Bachelor of Arts degree in geography fosters an understanding of the processes of formation and the characteristics of a landscape. A broad spectrum of courses in geography and related fields helps students delineate, by data collection and analysis, the processes which create a landscape. Students select an area of study from physical geography, resource analysis and management, or urban planning. Study of a foreign language is part of this degree program.
The objective of the program of courses leading to a Bachelor of Science degree in geography is to develop competence in the area of technical skills and logic in accordance with the change in emphasis to a more spatial-behavioral orientation. Competence in technical skills and logic is critical as more geography majors seek employment in government and business. However, an understanding of the traditional geographic perspective is an important part of the education of a geographer. To achieve these goals, courses in physical, economic, and social geography; cartography, photogrammetry, and remote sensing; and urban planning 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 part of an earth science program, or as part of an elementary teaching major. Geography courses may satisfy both General Education requirements and advanced course electives in many programs. Students majoring in geography may qualify for certification at the secondary level by meeting the minimum requirements in professional education courses essential to certification by the state of Ohio. Students interested in this option should consult a records analyst in the College of Education and Human Services for information concerning minimum requirements.

Because sequential requirements and prerequisites exist in both the professional and academic components of each program from which courses are selected, students are strongly urged to consult an adviser before registering.

The department participates in the university’s dual major program. For further details, see the department chair.

Geography majors may participate in the department’s internship program. The internship is designed to provide practical experience for majors in geography as they pursue the baccalaureate. Such experience is considered beneficial for students to complement their class work and to obtain experience in the actual work environment. Students interested in the internship should contact the departmental coordinator of the program, and/or adviser.

Geography Honors Program

The Department of Geography encourages outstanding academic work through the honors program established for superior students who wish to work on a geographic problem of their own definition. Applicants must be majors in geography, have senior standing with thirty-six hours of courses in geography to their credit, and meet certain minimum grade point averages. Candidates are required to complete an honors project under the direction of a member of the geography faculty. Successful completion of the project, including written and oral project reports, carries four academic credits and entitles students to graduate with formal recognition of 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.

Cooperative Education Program

Cooperative education experience is also available to qualified geography majors beginning in their sophomore year in both the public and private sectors. Cooperative job opportunities exist in the areas of cartography, community development, meteorology, remote sensing, and urban planning. Cooperative education offers students a means of partially financing their education while gaining career-oriented experiences.

Students interested in cooperative education opportunities should contact the departmental coordinator of the program, and/or adviser.

Certificate Programs

A certificate program in cartography, photogrammetry, and remote sensing is offered by the Department of Geography, providing extended training for those desiring to complement a major field of study with such skills. Included is a group of five courses allowing participants to become aware of the latest developments in data collection and analysis techniques, aerial and space cameras and sensors, photographic materials and reproductive processes, and mapping procedures, including computer mapping. Upon completion of these courses, each participant must present a portfolio of materials for faculty review and complete an oral review of his/her work with the faculty.

A certificate program in urban planning is offered by the Department of Geography to provide training in the planning process, especially for those desiring to complement a major field of study with such skills. Through six courses, students will study the built environment and the various techniques used to describe, evaluate, and guide spatial and physical change. Students will acquire skills in defining needs and goals, in assessing development patterns and policies, and in implementing planned changes. The program requires the completion of six courses which provide participants with information on the planning function and the development of research and analytical abilities for those preparing for work in, or who are currently engaged in, city, urban, regional, environmental, or resource planning. Upon completion of these courses, each participant will present a portfolio of materials for faculty review and, in addition, present an oral defense of his/her research project before a faculty review committee.

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 385, 365 10
One course in regional geography 4
One course in theoretical geography 3

Departmental Major Requirements 32-33

Related Course Requirements 24

Foreign Language or Research Methods Requirement 20

Electives 31-32

Should be selected in consultation with the departmental adviser to complement and support the area of concentration.

Total 192

Geography Major Curricula

Physical Geography

Physical Geography Major Requirements 33
GEO 330, 361 8
GEO 322, 375 8
GEO 331, 445 9
Two appropriate geography courses numbered 300 or above 8

Related Course Requirements 24
Approved courses numbered 200 and above (not to exceed four courses in one department) in computer science, engineering, geological sciences, mathematics, and physics

Resource Analysis and Management

Resource Analysis and Management Major Requirements 32
GEO 330, 340, 353, 361, 375 20
GEO 302, 322 8
One appropriate geography course numbered 300 or above 4

Related Course Requirements 24
Approved courses numbered 200 and above (not to exceed four courses in one department) in biological sciences, computer science, economics, geological sciences, history, management, mathematics, philosophy, and political science

Urban Planning

Urban Planning Major Requirements 32
GEO 311, 340, 353 12
GEO 312, 361, 413 12
Two appropriate geography courses numbered 300 or above 8

Related Requirements 24
Approved courses numbered 200 and above (not to exceed four courses in one department) in anthropology, art, biological sciences, chemistry, computer science, economics, education, engineering, geological sciences, history, marketing, mathematics, political science, psychology, social work, sociology, and urban affairs.

Degree Requirements—Geography
Bachelor of Science Degree

General Education Requirements 57

Departmental Core Requirements 26
GEO 201, 202, 203 9
GEO 365, 385 10
One course in regional geography 4
One course in theoretical geography 3

Departmental Major Requirements 36-37

Physical Component
Three of the following:
GEO 322, 330, 331, 432 12

Economic-Social Component
Two of the following:
GEO 302, 353, 375 8

Skills Component
Two of the following:
GEO 361, 362, 445, 446, 463 8-9

Planning Component
Two of the following:
GEO 311, 312, 413 8

Related Course Requirements 28-29

Mathematics
STT 164/165, 265/266 13

Philosophy
Two of the following:
PHL 115, 471, 472 8

Computer Science
Two of the following:
CS 141, 142, 300, 210 7-8

Electives 42-43

Should be selected in consultation with the departmental adviser to complement and support the area of concentration.

Total 192
Minor in Geography

The minor in geography is designed to provide a coherent program of courses for students in other disciplines who wish to supplement their knowledge and skills with geographic analytical skills and perspectives. Students electing a minor in geography may choose one of two concentrations, physical geography or urban geography. A minimum grade point average of 2.5 is required in the minor.

Minor in Physical Geography

| GEO 311 | 330 | 361 | 385 | 17 |
| GEO 322 | 331 | 365 | 492 | 15 |

Minor in Urban Geography

| GEO 311 | 340 | 353 | 385 | 17 |
| GEO 312 | 365 | 413 | 492 | 15 |

History

Professors: Becker, Berry, Dorn, Gordon, Mulhollan, Spiegel

Associate Professors: Arbagi, Carlson (WSU Lake Campus), Merriam, Nolan, Sealander, Spetter (chair), Yuan

Assistant Professors: Melton, Swann, Wachtell, Wood (WSU Lake Campus)

The undergraduate major in history enables students to gain a broad liberal arts education. In meeting the specific requirements of the major, 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 complementary elective courses in other departments, which add depth and variety, students enlarge their historical perspective. Through exposure to a broad spectrum of human experience in the past and present, students should come to an understanding of the self and of their relationship to other human beings and to the structure of society. 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 a career in such fields as teaching, journalism, library and archival work, government, politics, law, and business. The departmental program also provides a sound basis for students planning to pursue study at the graduate level.

Students who declare history as a major are assigned an academic adviser who will assist with academic routines, the selection of individual courses, and the development of undergraduate and postgraduate goals. Students interested in careers in law, public service, journalism, or business should consult with the adviser 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.

History Honors Program

The honors program enables qualified students to carry out independent research under the guidance of a faculty sponsor. Departmental honors at graduation are awarded on the basis of students’ completion of the following: at least one interdisciplinary honors seminar; History 400 (with a grade of A or B); a 3.5 average in history and a 3.0 average in overall course work; and a Bachelor of Arts degree in history. In exceptional cases, certain requirements may be waived by a vote of the departmental curriculum committee. Interested students should consult with the departmental adviser.

Cooperative Education Program

A cooperative education program is available to qualified history majors in both the private and public sectors. Cooperative education job opportunities may be arranged in government, business, industry, and a variety of private service organizations. Cooperative education offers students a means of partially financing their education while gaining a career-related experience. A limited number of elective course credits will be granted to students who satisfactorily complete their programs. Contact the department chair or undergraduate adviser for further information.

Degree Requirements—History

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 50

Professional courses:
HST 300, 498
United States History:
HST 211, 212 (six hours)
Upper division courses (sixteen hours)
Non-American history (upper division):
Two courses in European history (eight hours)
Two courses in Third World history (eight hours)
One course in area of student’s choice (four hours)

Related Requirements 24

Minimum of twelve hours must be taken in one field and all related course work must be taken in consultation with the History Department’s adviser for undergraduate study.

Foreign Language or Research Language or Research Methods Requirement 20-24

Electives 37-41

Total 192

*General Education history courses, HST 101, 102, and 103, are not counted toward departmental requirements.
Minor in History

The minor in history will serve the needs of students majoring in a variety of disciplines including religion, classics, political science, and literature, to name just a few. Students minoring in history will acquire the historical background and learn the critical methodology and analytical techniques employed by historians.

The history minor will consist of thirty-four 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
Sixteen hours of upper division course work in an area of the student’s choice to be selected in consultation with the History Department’s adviser for undergraduate study.

Modern Languages

Professors Horn, Matual, Racevskis
Associate Professors Garrison, Hye, Park, Whissen (chair)
Assistant Professor Cannon, Petreman
Adjunct Assistant Professor Pittman (WSU Lake Campus)

The contributions of foreign language study to international understanding and world peace and the value of language literacy within the framework of liberal education have long been recognized. The foreign language program seeks to combine 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 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, Polish, Portuguese, Russian, comparative literature, foreign cultures, literature in translation, and linguistics.

Modern Languages Honors Program

Outstanding language majors are encouraged to participate in the departmental honors program. For details, please consult with the chair.

Placement and Proficiency

Students are responsible for placing themselves on the language level at which they can perform satisfactorily. For students who have had no foreign language or one year of study in high school, the 101 course level is recommended. Students who have had two or three years of foreign language in high school should take the 201 level. For students with four years of foreign language study, the 321 and/or 341 courses are suggested.

Students are not obligated to follow this placement scale. However, if they are uncertain about the appropriate placement level, they may make arrangements with the modern language department to take a test to determine their level of capability.

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

Degree Requirements—French

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 54
FR 201, 202, 203, 301, 302 20
FR 321, 322, 341, 342 16
FR 361 2
French electives (300- and 400-level courses) 16
## Degree Requirements—German
### Bachelor of Arts Degree

### General Education Requirements
57

### Departmental Requirements
52
- GER 201, 202, 203; 301, 302
- GER 321, 322, 341, 342
- German electives (300- and 400-level courses)

### Related Requirements
24
- CPL 210
- LI 471
- ML 111, 112, 113, 114, 115
  (Students should choose the culture course related to their field plus at least one other culture course.)
- ML 211, 212, 213, 214, 215
  (Students should choose at least two literature courses in translation outside their own field.)

### Electives
57

### Total
192

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## Degree Requirements—Modern Languages
### Bachelor of Arts Degree

The degree in modern languages is a combination of at least three languages, thirty-six credit hours in a primary field, and thirty-six credit hours in a secondary field. A primary field is a concentration in French, German, or Spanish; a secondary field is any combination of languages the department offers other than the one selected for the primary field, but at least one of the second languages must be pursued through the 203 level. First-year courses will not be counted toward the primary field but may be used to fulfill the requirements for the secondary field. The primary field must include at least two courses at the 400 level.

### General Education Requirements
57

### Departmental Requirements
(at least three languages)
72
- Primary language (example)
  - FR 201, 202, 203; 301, 302; 321, 322; 403, 422
- Secondary language (example)
  - SPN 101, 102, 103; 201, 202, 203
  - GER 101, 102, 103

### Related Requirements
24
- CPL 210
- LI 471
- ML 111, 112, 113, 114, 115
  (Students should choose the culture course related to their field and at least one other culture course.)
- ML 211, 212, 213, 214, 215
  (Students should choose at least two literature courses in translation outside their own field.)

### Electives
39

### Total
192
Modern Language Minors
French, German, Spanish

A minor in a foreign language greatly enhances students' career prospects. Minors are offered in French, German, and Spanish and require a minimum of thirty-two credit hours selected from courses at the 200 level or above (excluding LI 471, FR 361, and SPN 361). A minor in Spanish, for example, might consist of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 201, 202, 203</td>
<td>12</td>
</tr>
<tr>
<td>SPN 301</td>
<td>4</td>
</tr>
<tr>
<td>SPN 321, 322</td>
<td>8</td>
</tr>
<tr>
<td>SPN 341, 342</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

Motion Pictures
See Theatre Arts

Music

Professors Knab (chair), Steinohrt
Associate Professors Atsalis, Bland, Foster, Larkowski, Laws, Magill, Olds (Emerita), Young
Assistant Professors Brubaker, Dimmick, Lane
Instructor Cameron

The Department of Music offers a four-year curriculum designed for serious 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 in accordance with 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 adviser in planning a major program.

All students in the university, as well as members of the community, are eligible to participate in the performing organizations. Some groups require individual auditions; prospective members should consult the various conductors to arrange auditions. Membership in the University Band, Orchestra, Chorus, or other authorized performing group is required of all music majors throughout their period of study, as described in the curricular outlines. The following instrumental groups are available: Orchestra, Chamber Orchestra, Symphony Band, Concert Band, Brass Choir, and Jazz Ensemble. Choral groups include the University Chorus, Chamber Singers, and Vocal Jazz Ensemble. Students majoring in other academic areas and members of the community may also elect music courses especially designed for the nonmusic major.

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, complete a piano placement examination, and meet with an assigned adviser from the music faculty for counseling and registration. Placement in applied music will be determined at the end of the first quarter of degree credit study. 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 will be required of all transfer students working toward a degree.

Because of the cost of individual instruction, special fees are charged for applied music. Fees for applied music are $55 for one half-hour lesson per week or $110 for a one hour lesson per week payable quarterly. A rental fee of $5 is charged for use of university-owned instruments in class instruction.

Students enrolled in academic music courses are required to attend recitals, concerts, and other approved performances. A schedule of acceptable performances is published quarterly. Bachelor of Music students are required to attend a minimum of eight performances each quarter of residence. At least four performances per year must be faculty recitals. Bachelor of Arts students are required to attend a minimum of four performances each quarter of residence. At least two performances per year must be faculty recitals.

A progressive course of study based on four levels of technical proficiency, musicianship, and repertoire has been developed in all areas of applied music. Students should consult regularly with their applied music instructors and advisers to ensure proper progress through the various requirements. Solo recital performances are also required of music majors. For information regarding applied music requirements, students should refer to the Applied Music Policy Statement, which includes details of formal recital requirements.

All music majors must pass a keyboard proficiency examination, details of which are set out in the document General Keyboard Requirements.

All music degree programs require a minimum of 192 credit hours for graduation. A detailed, four-year curriculum outline for each major program is available in the Department of Music office.
Degree Requirements—Performance

Bachelor of Music Degree

The department offers majors in the following areas of performance: piano, voice, organ, violin, viola, violoncello, string bass, flute, oboe, clarinet, bassoon, saxophone, trumpet, horn, trombone, euphonium or baritone horn, tuba, percussion, classical guitar, and harp. With departmental permission, students may major in fields other than those listed. Students must study continuously in their chosen disciplines until all graduation requirements are met, including satisfactory public performance of specified recitals during the junior and senior years.

The department also offers a major in performance with an emphasis in piano pedagogy. This program, designed for piano performance majors who wish to prepare themselves as independent piano teachers, requires solo and ensemble performances during the junior and senior years as well as demonstration of functional keyboard skills and knowledge of teaching repertoire.

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>Units</th>
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<tbody>
<tr>
<td>Required substitution</td>
<td>MUS 121, 122</td>
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Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>MUS 101, 102, 103, 201, 202, 203</td>
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</tr>
<tr>
<td>MUS 151, 152, 153, 251, 252, 253</td>
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<tr>
<td>MUS 311, 312, 313</td>
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Performance Area Requirements

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<th>Units</th>
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<td>Voice</td>
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<tr>
<td>MUS 441, 442, 455, 456, 457</td>
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<tr>
<td>MUS 420</td>
<td>9</td>
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<tr>
<td>MUS 261, 262</td>
<td>4</td>
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<td>MUS 110</td>
<td>48</td>
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<tr>
<td>MUS 105</td>
<td>3</td>
</tr>
<tr>
<td>Choral Ensemble</td>
<td>9</td>
</tr>
<tr>
<td>MUS 155, 156, 157, 255, 256, 257</td>
<td>6</td>
</tr>
<tr>
<td>Spanish, French, or German</td>
<td>12</td>
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<tr>
<td>Electives</td>
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<table>
<thead>
<tr>
<th>Piano</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUS 401, 451, 452, 453</td>
<td>12</td>
</tr>
<tr>
<td>MUS 301 or 302, 336, 316, 317</td>
<td>12</td>
</tr>
<tr>
<td>MUS 100</td>
<td>48</td>
</tr>
<tr>
<td>MUS 105, 205 (at least three 105 at least six 205)</td>
<td>12</td>
</tr>
<tr>
<td>Foreign language</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>18</td>
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</table>

<table>
<thead>
<tr>
<th>Piano with Emphasis on Pedagogy</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUS 401, 451, 452, 453</td>
<td>12</td>
</tr>
<tr>
<td>MUS 316, 317, 318, 416, 417, 418</td>
<td>18</td>
</tr>
<tr>
<td>MUS 301 or 302, 328, 336</td>
<td>9</td>
</tr>
<tr>
<td>MUS 100</td>
<td>36</td>
</tr>
<tr>
<td>MUS 105, 205 (at least three 105 at least six 205)</td>
<td>12</td>
</tr>
<tr>
<td>Foreign language</td>
<td>12</td>
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<tr>
<td>Electives</td>
<td>18</td>
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<table>
<thead>
<tr>
<th>Organ</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUS 401, 441, 442</td>
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<tr>
<td>MUS 301, 336, 337</td>
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<tr>
<td>MUS 160</td>
<td>48</td>
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<tr>
<td>MUS 105</td>
<td>3</td>
</tr>
<tr>
<td>MUS 205</td>
<td>3</td>
</tr>
<tr>
<td>Choral ensemble</td>
<td>6</td>
</tr>
<tr>
<td>MUS 110</td>
<td>6</td>
</tr>
<tr>
<td>MUS 257</td>
<td>1</td>
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<tr>
<td>Religion elective</td>
<td>3</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Choral laboratory ensemble (two quarters)</td>
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<table>
<thead>
<tr>
<th>Strings</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442</td>
<td>9</td>
</tr>
<tr>
<td>MUS 180, 190, 200 or 210</td>
<td>48</td>
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<tr>
<td>MUS 301</td>
<td>3</td>
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<tr>
<td>MUS 336, 338</td>
<td>6</td>
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<tr>
<td>MUS 205</td>
<td>3</td>
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<tr>
<td>MUS 135</td>
<td>12</td>
</tr>
<tr>
<td>MUS 155, 156, 157, 255, 256, 257</td>
<td>6</td>
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<tr>
<td>MUS 105</td>
<td>3</td>
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<tr>
<td>Electives</td>
<td>21</td>
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<td>Instrumental laboratory ensemble (two quarters)</td>
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<table>
<thead>
<tr>
<th>Woodwinds</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>MUS 401, 402 or 403, 421, 422, 441, 442</td>
<td>12</td>
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<tr>
<td>MUS 120, 130, 220, 230 or 240</td>
<td>48</td>
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<tr>
<td>MUS 227, 228, 229</td>
<td>3</td>
</tr>
<tr>
<td>MUS 301, 302</td>
<td>6</td>
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<tr>
<td>MUS 336, 338</td>
<td>6</td>
</tr>
<tr>
<td>MUS 115</td>
<td>9</td>
</tr>
<tr>
<td>MUS 135</td>
<td>3</td>
</tr>
<tr>
<td>MUS 205</td>
<td>3</td>
</tr>
<tr>
<td>MUS 155, 156, 157, 255, 256, 257</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>15</td>
</tr>
<tr>
<td>Instrumental laboratory ensemble (two quarters)</td>
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</table>

<table>
<thead>
<tr>
<th>Brass</th>
<th>Units</th>
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<tbody>
<tr>
<td>MUS 401, 421, 422, 441, 442</td>
<td>9</td>
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<tr>
<td>MUS 140, 150, 170, 250 or 260</td>
<td>48</td>
</tr>
<tr>
<td>MUS 336, 338</td>
<td>6</td>
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<tr>
<td>MUS 301</td>
<td>3</td>
</tr>
<tr>
<td>MUS 115</td>
<td>9</td>
</tr>
<tr>
<td>MUS 205</td>
<td>3</td>
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<tr>
<td>MUS 135</td>
<td>3</td>
</tr>
<tr>
<td>MUS 235</td>
<td>3</td>
</tr>
<tr>
<td>MUS 125</td>
<td>3</td>
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<tr>
<td>Secondary brass study: one or two instruments</td>
<td>2</td>
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<tr>
<td>MUS 155, 156, 157, 255, 256, 257</td>
<td>6</td>
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<tr>
<td>Electives</td>
<td>18</td>
</tr>
<tr>
<td>Instrumental laboratory ensemble (two quarters)</td>
<td>0</td>
</tr>
</tbody>
</table>
Music/Liberal Arts

Major Requirements 43-45
MUS 155, 156, 157 3
ED 221, 214, 216, 222, 218, 220, 223 12
ED 302, 327, 464, 432 12
ED 429, 422, 440 16-18
COM 101 3
LCS 280 3

One of the following programs: 72-90
Band or Orchestral Instrument Concentration 79
Applied music concentration 22
MUS 255, 256, 257 or 100 3
MUS 105 3
MUS 115 or 135 11
MUS 145, 146 2
MUS 205 3
MUS 215, 216, 217; 224, 225, 226, 227, 228, 229, 231 10
MUS 223, 323, 324, 329 12
MUS 336, 338 6
MUS 421 2
Music electives 5

Piano or Classical Guitar Concentration with Band or Orchestral Instrument Secondary 88-90
Applied music concentration 22
MUS 100 (if guitar is concentration) 3
MUS 105 3
MUS 115 or 135 11
MUS 145, 146 2
MUS 205 3
MUS 215, 216, 217; 224, 225, 226, 227, 228, 229, 231 10
MUS 257 (if piano is concentration) 1
MUS 223, 323, 324, 329 12
MUS 336, 338 6
MUS 421 2
Music electives 5

Voice Concentration with Piano Secondary 72-75
Applied music concentration 22
Applied music secondary (if piano is concentration) 11
MUS 105 3
MUS 105 or 195 8
MUS 215, 224 (special section), 227, 231 4
MUS 261, 262 4
MUS 328, 329, 322 10
MUS 336, 337 6
MUS 421 2
Music electives 5

For curricular requirements, see the previous listing with the addition of the following:
Secondary (classical guitar) 11
Degree Requirements—
Music Bachelor Theory

Bachelor of Music Degree

Students may pursue a Bachelor of Music degree with a major in music theory. This is not a terminal degree and students pursuing this curriculum should expect to continue at the graduate level. Therefore, all students considering this program should consult with the coordinator of music theory before entering the program.

Admission to this program requires a cumulative grade point average of 3.0 in MUS 101, 102, 103 and MUS 151, 152, 153; students intending to pursue a degree in music theory will be placed in the Music: Unspecified category until MUS 103 and 153 have been completed.

In order to meet graduation requirements with a major in music theory, students must complete performance level IIIA in the principal performance area and pass all keyboard proficiency requirements. A 3.0 cumulative grade point average must be maintained in all required music theory courses and a 2.0 in all other required music courses. Senior students will be required to complete a senior project. This requirement may be met through a scholarly lecture in the field of music theory and may include the presentation of original compositions and performance. Exception to any requirement must be approved by the department chair and the appropriate department faculty committee.

General Education Requirements

Required substitutions:
MUS 121, 122

Departmental Requirements

MUS 101, 102, 103; 201, 202, 203 18
MUS 151, 152, 153; 251, 252, 253 6
MUS 311, 312, 313 9

Major Requirements

MUS 301, 302, 314 9
MUS 336, 371, 372, 381, 382 15
MUS 401, 402, 403, 421, 422 13
MUS 424, 481 9
Ensemble (at least one hour per quarter) 12

One of the following performance concentrations 41

Keyboard
Applied music 18
MUS 257 1
Secondary (selected from voice, woodwinds, string, brass, percussion) 5
Electives 17

Nonkeyboard
Applied music
MUS 155, 156, 157; 255, 256, 257 18
MUS 100 3
Class or private instruction selected from:
voice, woodwinds, strings, brass, percussion 5
Elective (vocal concentrations must take MUS 261, 262) 9

Degree Requirements—
Music History and Literature

Bachelor of Music Degree

Students may pursue a Bachelor of Music degree with a major in music history and literature. This is not a terminal degree, and students pursuing this curriculum should expect to continue at the graduate level. Therefore, all students considering this program should consult with the coordinator of music theory and literature before entering the program.

Admission to this program requires a cumulative grade point average of 3.0 in MUS 121 and 122; students intending to pursue the music history and literature major will be placed in the Music: Unspecified category until MUS 103, 153, and 122 have been completed.

In order to meet graduation requirements with a major in music history and literature, students must complete level IIIA in the principal performance area and pass all keyboard proficiency requirements. A 3.0 cumulative grade point average must be maintained in all required music history and literature courses and a 2.0 in all other required music courses. Senior students are required to complete a senior project, which will normally consist of an extensive research project.

General Education Requirements

Required substitutions:
MUS 121, 122

Departmental Requirements

MUS 101, 102, 103; 201, 202, 203 18
MUS 151, 152, 153; 251, 252, 253 6
MUS 311, 312, 313 9

Major Requirements

MUS 301, 302, 314 9
MUS 314; 401, 402, 403, 421, 422 12
MUS 481 (senior project) 6
Electives 8

One of the following performance concentrations 36

Keyboard
Applied Music 18
MUS 257 1
Music electives 17
Degree Requirements—
Music Composition

Bachelor of Music Degree

Students may pursue a Bachelor of Music degree with a major in music composition. This is not a terminal degree, and students pursuing this curriculum should expect to continue study at the graduate level. Therefore, all students considering this program should consult with the coordinator of music theory and literature before entering the program.

Admission to this program requires a cumulative grade point average of 3.0 in MUS 101, 102, 103 and 151, 152, 153; students intending to pursue a degree in music composition will be placed in the Music: Unspecified category until MUS 103 and 153 have been completed.

In order to meet graduation requirements with a major in music composition, students must complete level IIA in the principal performance area and pass all keyboard proficiency requirements. A 3.0 cumulative grade point average must be maintained in all required composition and theory courses and a 2.0 in all other required music courses. Senior students are required to present a thirty-minute recital of original compositions.

General Education Requirements 60

Required substitutions:
MUS 121, 122

Departmental Requirements 33

MUS 101, 102, 103; 201, 202, 203 18
MUS 151, 152, 153; 251, 252, 253 6
MUS 311, 312, 313 9

Major Requirements 64

MUS 301, 302, 336 9
MUS 371, 372, 373; 381, 382, 383 18
MUS 401, 402, 403; 421, 422 13
MUS 471, 472, 473; 481 (3) 12
Ensemble (at least one credit hour per quarter) 12

One of the following performance concentrations: 35-38

Keyboard Concentration 35
Secondary (selected from voice, woodwind, strings, brass, percussion) 18
MUS 257 5
Electives 11

Music Honors Program

The Department of Music encourages students who have demonstrated superior academic ability to participate in the music honors program. Entrance to this program requires that students be juniors or seniors with a cumulative 3.0 grade point average and a 3.5 grade point average in music. For additional information, contact the department chair.
Philosophy

Associate Professors Hough (chair), Taylor
Assistant Professors Beelick, Irvine

The philosophy major is designed to encourage clear and logical thinking about problems that philosophers attempt to solve, to develop students’ ability for critical evaluation through analysis and appreciation of such attempts, and to increase students’ cultural experience through acquaintance with the more important philosophic writings.

The forty-four hour requirement in the major affords a considerable measure of flexibility; it enables students to utilize numerous options in other disciplines to prepare for different professional objectives, while also developing a relatively 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 curricula courses in the philosophy of their disciplines. Furthermore, philosophical questions can arise during one’s investigation of any specific field.

Because of differences among student interests and the ready availability of electives, each major will follow an individualized program in consultation with an adviser. 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 pursue further training in professional disciplines such as law, medicine, and theology, and for those who plan advanced study in philosophy.

Degree Requirements—Philosophy

Bachelor of Arts Degree

General Education Requirements 57
Departmental Requirements 44
Electives and Related Courses 67-71
Foreign Language or Research Methods Requirement 20-24

Total 192

Political Science

Professors Moore, Smith (Emeritus), Thobaben (Emeritus)
Associate Professors Adams (chair), Funderburk, Hutzel, Jacob, Kotecha, Mazey, Walker
Assistant Professor Fitzgerald, Loewenstein, Pammer, Schlagheck, Sirkin

Political Science is, in one sense, an ancient discipline, and, in another sense, one of the most recently developed social sciences. The origins of the formal study of politics and government reach back to the ancient Greeks and their concern for the ideal polity. It is also true that political science as it is taught today is a very new discipline which has developed primarily in the United States during the twentieth century, most notably since 1945. During this period, scholars have attempted with increasing effectiveness to apply more rigorous scientific techniques of problem definition and information and data collection to their study of politics and government. Politics itself is not scientific and the study of it is not subject to the control of laboratory conditions. However, political scientists continue to seek greater objectivity, higher standards of proof, and a less ethnocentric perspective on national and international politics. Social scientific concepts and methods are used wherever appropriate, but political science continues to recognize the importance of philosophic, legal, historical, and other approaches to achieving greater understanding of political phenomena. Thus, political science reflects and supports a variety of scholarly perspectives.

What do students of political science study? In the broadest sense, they study governments: how they evolve, why they exist, the forms and social functions they assume, why people behave in their relationship to government, what they do to influence government, how government attempts to influence people’s opinions, behavior, and beliefs in response to what it does. Students of politics also must appreciate the social environmental influences acting on governments—how cultural, historical, economic, and other social forces and conditions affect the evolution of governments and mass political behavior. Increasingly, they also need to understand the interaction between government and other powerful social institutions.

At Wright State, the study of politics and government occurs in four areas of instruction: (1) American government, including judicial institutions and processes, legislative and executive institutions, political parties and interest groups, public administration, public opinion and elections, and state and urban government; (2) international
relations and comparative politics, including American and Soviet foreign policy, western European governments, the Middle East, east European and Soviet governments, national security policy, and developing political systems; (3) political philosophy, including political ideologies, history of political thought, and Marxist theory; (4) methods of political research for majors electing a college-approved option to the two-year foreign language requirement for the B.A. degree.

**Student Internships and Applied Politics**

Complementing classroom work for political science majors are numerous practical experiential opportunities to apply knowledge and develop valuable interpersonal and career-related skills. Internships 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. The department sponsors student participation on our two nationally recognized, award-winning teams attending the annual National Model United Nations meeting in New York City and in the yearly National Mock Trial competitions at Drake University.

**Career Education**

Career preparation for political science majors features an emphasis on basic skills and competencies valuable in many career areas. The ability to write and speak effectively, to think and make choices analytically, to manage and use information and substantive knowledge about governmental institutions and processes are valuable in many occupational settings. And, the U.S. Bureau of Labor Statistics now projects that employment for social scientists will grow over the next decade by about 33 percent. Openings for lawyers will increase by a third and for people in journalism the increase rate is expected to approach 40 percent.

Any political science major seeking employment in the next decade needs to keep the following four points in mind: (1) Students who can demonstrate problem-solving skills and technical knowledge about any important public policy area will be marketable and have a good capacity to move between the public and private sector. (2) In today's job market, foreign language study and a solid grounding in mathematics and statistics and computer technology greatly increases students' value to prospective employers. (3) In an "information explosion age" such skills are important in any career area. (4) Students in political science should take advantage of internships and other practical opportunities to gain as much "real world" experience as possible while in school. At Wright State, the Department of Political Science is especially strong in its provision of many practical applications programs on and off campus for its majors.

**Cooperative Education**

Cooperative education is available to qualified political science majors in both the private and public sectors. Cooperative education job opportunities may be arranged in government, business, industry, and a variety of private service organizations. Cooperative education offers students a means of partially financing their education while gaining career-related experience. A limited number of elective course credits will be granted to students who satisfactorily complete their programs. Contact the department chair for further information.

**Degree Requirements—Political Science**

**Bachelor of Arts Degree**

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<thead>
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<td>Foreign Language or Research Methods Requirement</td>
<td>20-24</td>
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</table>

**Departmental Requirements | 60**

**Core Requirements (two courses)**

- Prerequisite: PLS 200
- PLS 212, 222

**Area Requirements**

**Prerequisite: Core Requirements**

1. American Government (two courses)
   - PLS 321, 322, 331, 335, 337
2. International and Comparative Politics (two courses)
   - PLS 351, 354, 356, 380, 453
3. Political Philosophy (one course)
   - PLS 301, 302, 303, 304, 305

**Advanced Department Electives (eight courses)**

Prerequisite: Core Requirements

- Twenty-four quarter hours chosen in consultation with a department adviser among 300- and 400-level courses with no fewer than four hours at the 400 level

**Related Major Requirements from Outside the Department**

- 24

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 25 credit hours.

**Option 1**

- English 240—Intermediate composition 3
- American History 8
- Economics 9
- Geography 4
Option 2
Option 2 may be the approved business minor for Liberal Arts majors, a minor or dual major in another field, or a tailor-made combination of courses from two or more disciplines with a clear focus and coherence reflecting the individual career or other interests of political science majors. In all cases, Option 2 must be specific in detail and have advance departmental approval.

Free Electives 27-31
Minimum Total 192

The Minor in Political Science

Purpose
Students majoring in other disciplines, particularly other social sciences, may find their career goals and personal interests complemented by a minor concentration in political science. This would be especially helpful to students in journalism, business majors interested in international business and finance, students in education, and anyone pursuing a career in the public or private sector where a basic understanding of political institutions and processes would strengthen other program interests. Completion of the approved minor would be certified on students’ official transcripts upon graduation.

The minor may be fulfilled by completing the following requirements.

The Political Science Minor: 32

1 Core Requirements (eight hours)
Prerequisite: Political Life—PLS 200
PLS 212, 222

2 Field Requirements (twelve hours)
Prerequisite: Core Requirements
Area A: American Government
(one course, four hours)
PLS 321, 322, 331, 335, 337
Area B: International and Comparative
Politics (one course, four hours)
PLS 351, 354, 356, 380, 453
Area C: Political Philosophy (one course,
four hours)
PLS 301, 302, 303, 304, 305

3 Advanced Political Science Electives:
Twelve hours distributed among 300- and
400-level courses chosen in consultation
with a departmental adviser

Departmental Honors
Effective September 1, 1986, majors in political science may earn departmental honors by completing the following requirements.

1 Compiling minimum grade point averages of 3.4 on both 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 departmental chair for information)
4 Completing the annual senior honors research seminar with a grade of A or B

By completing these requirements and by qualifying for participation in the university honors program, majors may earn the designation University Honors Scholar upon graduation. See the director of the University Honors Program for information.

National Honor Society
Majors in political science at Wright State may become eligible for Membership in Theta Zeta Chapter of Pi Sigma Alpha, the national political science honor society. See the department chair for information.

Religion

Professors Albanese, Friedland (Sanders Scholar), Piediscalzi
Associate Professors Barr, Neve, Reece, Stoesz (chair)

The Department of Religion is devoted to a comprehensive and nonsectarian inquiry into religion as one of the significant areas of human life and thought. This inquiry shares with other humanities disciplines (history, English, philosophy, etc.) the goal of understanding ourselves and our world. In fact, the whole range of past and present human concerns can be investigated through the academic study of religion, for the religious factor in culture has been a powerful force. Religion is heavily embedded in most of the world’s history, its literary documents, its arts, and its social institutions.

The academic study of religion emphasizes the development of critical and responsible standards of judgment and a sympathetic imagination in order to achieve a lucid understanding of the major themes that have arisen in the history of religions and the relation of these themes to the continuing problems of men and women. These ends are pursued by a study of the various religious traditions, their history, thought, social context, and moral and ritual expression. We seek to be self-conscious about our methods and presuppositions and to be critical of our own scholarly endeavor. In addition, the
department is strongly committed to interdisciplinary studies such as a course in evolution taught jointly with the Department of Biological Sciences and other courses taught jointly with business, education, English, geography, and political science.

A major in religion requires fourteen courses within the department. Students need to complete the sequence REL 111, 112, and 114 early in their program and to take REL 429 near the end of their studies. In addition, a religion major requires the successful completion of one interdisciplinary course and additional courses from the following six areas, with at least one course from each area: American Religion, Biblical Studies, Ethics or Philosophy of Religion, Eastern Religions, Western Religions, and Religion and the Social Sciences. At least twenty-four of these must be at the 300 level or above. Religion majors must also complete twenty-eight hours of related courses selected from a wide range of disciplines related to their areas of specialization. The courses are to be selected in consultation with, and approved by, the adviser. Additionally, students will 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 twenty-one hours. The aim is to allow students sufficient latitude to explore interests in the arts and sciences to the fullest so as to obtain a genuinely liberal education.

The department also provides a dual major (eleven courses) and a minor (eight courses). See the department chair for complete details.

Any vocation that might follow from a good arts and sciences education is possible for the major in religion. Human services professions such as teaching, administration of religious and other institutions, social work, counseling, law, ministry, and medicine; or business and industrial employment positions in sales and personnel work are examples of the careers religion majors have chosen in the past. Normally, the technical training required for these fields would come after finishing the baccalaureate program, but students are encouraged to choose electives leading to their career choices as soon as possible. Career planning information is available to religion majors.

The Public Education Religion Studies Center, a consulting service of Wright State University, is located on the university's main campus. PERSC's purpose is to encourage and facilitate increased and improved teaching about religion within constitutional bounds in public education.

Religion Honors Program

The Department of Religion encourages superior academic work through full participation in the university's honors program. Special seminars and discussion sections, departmental reading courses, and other opportunities are available to superior students. Relatively small classes also make possible a close working relationship between students and professor. Junior and senior students 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.

Degree Requirements—Religion

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 48-53
REL 111, 112, 114 9
REL 429 4
Interdisciplinary course 4
Six additional courses, one from each area:
American Religion 9
Biblical Studies 4
Ethics or Philosophy of Religion 4
Eastern Religions 21-24
Western Religions 10-12
Religion electives

A maximum of eight hours may be credited toward these requirements from REL 470, 481, 482, and 483. At least twenty-four hours must be at the 300 level or above.

Foreign Language or Research Methods Requirement 20-24
Related Requirements 28
Approved courses related to area of specialization
Electives 26-31

Total (minimum requirement) 192

Minor in Religion

A minor in religion studies amplifies and enhances the preparation of students for business, industrial, educational, and other professional endeavors, and it would be a valuable life resource. It also enhances students' self-understanding and cultural awareness and thus is an important enrichment to any college education.

Requirements
REL 111, 112, 114 9
Four additional courses in religion* 13-16
One interdisciplinary course 4

Total 26-29

*A maximum of four hours may be credited toward these requirements from REL 470, 481, 482, and 483. At least eight hours must be at the 300 level or above.
Selected Studies

Program Committee Coordinator
Jerome M. Clemens

The program in selected studies allows students to pursue a self-designed course of study. It is planned for persons with a definite educational objective that diverges from the majors presently offered by the College of Liberal Arts. While the program is free from several traditional requirements, students must follow certain other requirements and procedures for obtaining the degree.

Students are eligible for admittance to the program after completing forty-five credit hours of study. In consultation with program sponsors, students formulate a contract outlining study goals and stipulating at least forty-eight credit hours of core courses that help to accomplish those personal goals. The contract is forwarded to the Program Committee for evaluation and approval.

In addition to completing the core and meeting all university and college requirements for graduation, students must successfully complete at least sixty credit hours of study in courses numbered 300 or above. Finally, from eight to sixteen hours of credit must be earned in LA 490, Senior Project in Selected Studies. A proposal for the project must be submitted to the Program Committee for approval before the beginning of students’ senior year.

The prospective major in selected studies should see the committee coordinator for more detailed information about the program.

Selected Studies Honors Program

Selected Studies encourages participation of its students in the University Honors Program. A selected studies major may graduate with honors if he or she attains an overall grade point average of 3.4 and an evaluation of excellence on his or her senior project.

Degree Requirements—Selected Studies

Bachelor of Arts Degree

General Education Requirements 57

Core Courses 48

Senior Project (LA 490) 8-16

Foreign Language or Research Methods Requirement 20-24

Electives 47-59

Total (minimum requirement) 192

Ordinarily no more than forty-five hours in one department may be counted toward the degree.

Bachelor of Fine Arts Degree

General Education Requirements 57

Core Courses 48

Senior Project (LA 490) 8-16

Electives 71-79

Total (minimum requirement) 192

Ordinarily no more than a combination of one hundred hours of course work may be taken in the Departments of Art and Art History, Music, and Theatre, and no more than sixty-eight 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 Departments of Communication and Sociology and Anthropology. It is for students interested in organizational communication who want, in addition, an in-depth understanding of the sociological influences operating in organizations.

A graduate of this program will have a specific understanding of the organizational world, including a knowledge of how communication is used in the workplace, an understanding of one’s role in an organization, and skill in coping with organizational change.

Dual Major Degree Requirements—Social and Industrial Communication

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 76

Required courses:

COM 101, 102, 141, 203, and three of the following: COM 441, 443, 445, 447;
SOC 200, 201, 306, and two of the following: SOC 350, 440, 441 42

Ordinarily no more than forty-five hours in one department may be counted toward the degree.
Major electives chosen from:
ATH 240, COM 233, 343, 345, 451, 453, 455, 471; SOC 340, 341, 406, 442, 444; or other approved courses 34

Foreign Language or
Research Methods Requirement 20-24

Electives 34-39

Total 192

Social Work

Associate Professors: Bognar, Engle (chair), Garrison
Assistant Professor: Moore

Successful completion of the social work curriculum leads to a professional degree. The major in social work is designed to prepare students to enter social work employment at the beginning level of practice and to prepare students for admission to graduate study in social work. The program is fully accredited on the baccalaureate level by the Council on Social Work Education.

A career in social work requires that an individual possess self-discipline, emotional stability, and intellectual creativity. If you are considering social work as a career, you should be interested in people of widely varying ages, abilities, and backgrounds. You will need to be able to develop rapport with professional colleagues and with many kinds of clients.

Career opportunities for the college graduate with a major in social work have expanded rapidly in recent years. Since 1970, the National Association of Social Workers has admitted persons with bachelor’s degrees who have completed undergraduate programs in social work.

There are many areas in which a social worker can function in governmental, private, and voluntary agencies. The majority of social workers perform supervisory or planning duties. Still others are employed as outreach workers, community organizers, and administrators. Typical agencies that may employ the beginning social worker include family services, children's services, public schools, hospitals, mental health centers, and probation and parole boards.

Newer, expanding fields for social work personnel are developing beyond these traditional services. In particular, recent graduates are finding employment in services to the aged.

Although increasing numbers of graduates are entering social work each year, the demand is still much greater than the supply. This situation is expected to continue into the 1990s. Salaries vary according to experience, education, and geographic location, but a graduate with a bachelor’s degree can expect to start at about $14,000 to $16,000 a year. Opportunities are equal for both men and women and are open to all racial and national backgrounds.

Social Work Honors Program

The Department of Social Work recognizes those majors who attain a superior achievement and has developed a program allowing students to be graduated with honors in social work. In this way, students can receive the maximum benefit from their undergraduate work as they have an opportunity to go beyond classroom expectations and realize goals in original research and analysis.

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. It is also suggested that they take at least one University Honors 400 interdisciplinary seminar prior to initiating their social work project.

Cooperative Education Program

Cooperative education is available to qualified social work majors in a wide variety of private and public social service agencies. Cooperative education offers students a means of partially financing their education while gaining career-related experience. A limited number of elective course credits will be granted to students who satisfactorily complete their programs. Contact the department chair for further information.

Degree Requirements—Social Work

Bachelor of Arts Degree

General Education Requirements 57

Specific Courses:
Area Three—The Nonwestern World:
CST 240—Comparative Nonwestern Cultures
Area Four—Understanding the Contemporary World:
BIO 105, 106, 107

Departmental Requirements 56
SW 270, 280, 370, 380, 470, 481, 482, 483, 484, 490, 491; SW 487 (field practicum)

Related Requirements 3
COM 102

Foreign Language or
Research Methods Requirement 20-23

Electives 53-56

Total (minimum requirement) 192
Liberal Arts/Sociology and Anthropology

Sociology and Anthropology

Professors Ballantine, Cargan, Cross, Islam, Meiko, Savells, Siegal, Welty
Associate Professors Keebernick, Orenstein, Riordan (chair), Thatcher
Assistant Professors Murray, Shepelak, Steinberg (WSU Lake Campus)

Departmental programs in sociology and anthropology each provide majors leading to the Bachelor of Arts degree.

Sociology

Sociology is concerned with social relations: how people relate to each other as individuals; how they interact in families; how they communicate in business and governmental situations; how they behave collectively in large groups under conditions of stress (as in a football stadium or during a tornado); how their behavior is affected by city or rural living; and how their behavior comes to be perceived as socially acceptable, deviant, illegal, or immoral.

Obviously, human interaction plays a large part in the work and life of all of us. Sociology attempts to observe and measure these interactions, so that we have a better idea of why our social behavior is as it is, so that we can develop programs to change behavior in ways that are likely to be beneficial to individuals and to society, so that we can predict likely outcomes from certain situations, and so that we can better understand what happens, even if we cannot affect it.

Sociologists work on problems of human interaction at all levels. They may focus their attention on interaction between two individuals as when they study interactions between doctors and patients and learn that the doctor's prescription may depend as much on that doctor-patient relationship as it does on the diagnosis. Or sociologists may focus on an intermediate problem, such as the relationship between the mix of businesses on a street and the safety of that street for its citizens. Or they may focus on a large-scale problem, such as the relationship between the involvement of a nation in a total war and the improvement in the collective mental health of its citizens.

Training in sociology provides students with new perspectives on social interaction and change. Students discover that what they had "always known" is not so, that apparently irrational behavior of friends and family has social significance, and that generally nothing is simple. Such perspectives are extremely valuable in seeing oneself in social perspective, in resolving interpersonal problems, in developing effective interpersonal relations in organizational structures, and in understanding transactions between bosses and employees. Thus sociology is a useful major for students who hope for careers that involve dealing with people, or who wish to work for large businesses or organizations, or who plan to develop careers in community service, public relations, or teaching.

Sociology Honors Program

Qualified students are encouraged to conduct independent research in sociology by enrolling in the department's honors program. Students are eligible for the program if they have a grade point average of 3.0 overall and 3.5 in sociology. Departmental honors are awarded at graduation upon completion of an honors project under the guidance of a faculty member who serves as an individual's honors adviser. Credit for the project is obtained under SOC 490. The program provides an opportunity for superior students to focus attention on topics that they find significant. Additional information is available from the departmental office.

Degree Requirements—Sociology

Bachelor of Arts Degree

General Education Requirements 57
Departmental Requirements 54
SOC 200, 201, 204, 301, 303, 306, 406 24
Sociology electives (twenty-four hours must be at the 300-400 level) 30
Related Requirements 24
ATH 240 plus at least twenty hours in courses from anthropology, history, political science, social work, and urban studies, and selected courses from communication, economics, environmental studies, geography, and psychology
Foreign Language or Research Methods Requirement 20-24
Electives 33-37
Total 192

Anthropology

Anthropology attempts to study the behavior and biology of the human species in all places and at all times. In order to accomplish this rather far-reaching goal, anthropologists draw on the social and biological sciences to utilize all available information and integrate it into a unique perspective.
Cultural anthropology exposes students to ways of life, belief systems, and value systems that differ from their own and thus gives them a better understanding of their own culture. It shows them the great diversity of ways in which cultures deal with universal human problems, from the basic needs of food and shelter to the metaphysical questions of existence that each of the world's religions attempts to answer. Typical subjects for anthropological study include relationships between language and culture, ecology and subsistence techniques, kinship systems, economics, political systems, religion, and cultural change.

Archaeology also deals with cultures, but those of the past rather than the present. Archaeologists search for and study the material remains of past cultural activity, and attempt to reconstruct the behavior patterns, technology, and social customs of people that no longer exist. This provides students with an historical view of human behavior that complements the studies of cultural anthropologists.

Physical anthropology focuses on the biological aspects of the human species. Human behavior and biology are the result of a long evolutionary history, and physical anthropologists study the fossil evidence for human evolution. Studies of biological variability in modern populations are also part of this discipline, since many differences in physical characteristics among populations represent adaptations to different environments.

Students should emerge from an anthropology major with increased insight into their own behavior and its cultural context. They should also have an increased understanding of the source of behavioral and biological differences between themselves and people of other cultures and subcultures. The concept that our way of doing things is simply one way of solving a particular problem, not the only way or the proper way, should lead to improved relations among people of all backgrounds.

Anthropology majors should normally complete the 200-level introductory courses before taking 300- or 400-level courses.

**Anthropology Honors Program**

Qualified students are encouraged to conduct independent research in one of the subfields of anthropology by enrolling in the department's honors program. Students are eligible for the program if they have an overall grade point average of 3.0 and an anthropology average of 3.5 by the end of their junior year. Departmental honors are awarded at graduation upon completion of an honors project under the guidance of a faculty member who serves as an individual's honors adviser. Credit for the project is obtained under ATH 492. Additional information is available from the departmental adviser.

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**Degree Requirements—Anthropology**

**Bachelor of Arts Degree**

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<td>ATH 240, 241, 242, 448</td>
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<tr>
<td>Cultural electives</td>
<td>16</td>
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<td>Archaeology electives</td>
<td>12</td>
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<td>Physical electives</td>
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<td>Open elective</td>
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<td>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 six hours toward major requirements. Within the cultural electives, students must choose at least one of the following: ATH 340, 349, 450</td>
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<td>Related Requirements</td>
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<tr>
<td>Selected from economics, geography, history, political science, psychology, sociology, and certain courses from biological sciences, geological sciences, and communication</td>
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<tr>
<td>Foreign Language or Research Methods Requirement</td>
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<td>Electives</td>
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**The Minor in Anthropology**

The minor in anthropology provides a cluster of courses that constitutes a coherent introduction to the subfields of the discipline. It is intended for students in other major fields of study who wish to supplement those areas with anthropological perspectives.

The minor in anthropology contains twenty-nine credit hours. This includes twelve hours in three introductory courses (ATH 240, 241, 242) which expose students to the subfields of cultural and physical anthropology and archaeology. Upper-level courses are structured to ensure that students have an opportunity 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).
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, and offers curricula leading 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 six B.F.A. degree programs have specific criteria for admission to each level of training. Students in all areas must achieve a minimum grade point average of 2.0 by the end of the freshman year to be eligible to continue as a major. Beginning in the fall of 1987, all students majoring in acting must audition for admission. In the fall of 1988, students who wish to be admitted as majors in dance, design/technology, motion picture production, or directingstage management must also successfully pass an audition or interview or portfolio presentation. Transfer students are admitted into B.F.A. programs on the basis of a successful audition, interview, or portfolio presentation. An open admissions policy remains in force for students wishing to major in the B.A. programs in theatre studies and motion picture history, theory, and criticism, and B.F.A. program in arts management.

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 may be required to satisfy program requirements which are current at the time of readmission. Details of the admission and retention policy are articulated in detail in the Department of Theatre Arts Student Handbook.

Degree Requirements—Dance

Bachelor of Fine Arts Degree

General Education Requirements

Required substitutions:

TH 201 and 202

Departmental Requirements

DAN 101, 102, 103, 111, 112, 113, 201, 202, 203, 211, 212, 213, 251, 252, 253, 301, 302, 303, 311, 312, 313, 321, 322, 323, 341, 342, 343, 371, 372, 373, 399 (six hours), 401, 402, 403, 411, 412, 413, 421, 422, 423, 491, 492, 493
Motion Pictures

The curriculum in motion pictures provides a comprehensive study of film as a fine art. Because of its ability to convey the entire spectrum of human experience and imagination, film can be used as a means of exploring those fundamental areas that have always been the preoccupation of the liberal arts. The study of film production can provide the individual with an effective and forceful means of artistic expression. To these ends, 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 program (B.F.A. degree) at the end of their freshman year if they have achieved an overall grade point average of 2.0 and have completed TH 131 and 180 with grades of C or above. Before a major may begin the junior or senior year of the production sequence, the major must have a 2.5 grade point average in all motion picture production classes and a 2.25 minimum overall grade point average. Finally, students must submit an original film to the faculty for evaluation.

To be accepted to the third year, majors must be trained, disciplined, and show promise of benefiting from continued training. All production students are expected to demonstrate growth in film technique and to continue dedicated studies in film history, theory, and criticism. All production incompletes must be finished before a major may sign up for the first course each fall of the higher production sequence.

Motion Picture Honors Program

The honors program of motion pictures provides students of superior academic ability the opportunity to use, broaden, and demonstrate their knowledge and 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 the senior year. To apply for admittance 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.

Cooperative Education Program

Motion pictures offers its majors the opportunity to participate in Wright State University's Cooperative Education Program. Cooperative education is an optional program which joins participating motion pictures majors, employers, and motion pictures faculty in a formalized process of experience-based learning. Students who enroll in cooperative education supplement classroom study in motion pictures with related work experience (e.g., in an area of film or television production, distribution, or exhibition) for which they earn additional credit after submitting a written report of their cooperative education experience to the area coordinator. Through this program, motion pictures majors can improve their professional preparation by acquiring marketable job skills; gain practical experience related to their course of study under the guidance of professionals in the business; learn to apply their formal education to practical problems encountered in actual work situations; begin to make career choices; and earn income for college expenses.

Degree Requirements—Motion Picture History, Theory, and Criticism

Bachelor of Arts Degree

The Bachelor of Arts degree integrates a liberal arts education with an appreciation of the diverse aesthetic, social, and historical aspects that constitute the film medium. Since film is a highly eclectic medium of expression, a coordinated program of elective courses is designed for each student.

General Education Requirements

60

Required substitutions:
TH 201 and 202

Departmental Requirements

62

TH 131, 180, 231, 232, 233, 334

Additional courses in motion picture history, theory, and criticism, to be chosen from:
TH 331, 332, 333, 399, 435, 436, 499
TH 281, 282, 283, 381, 382, 383, 436, 499

9

Related Requirements

11

ART 207; MUS 121 or 212; COM 152 or 251

Foreign Language Requirement

20

French or German recommended

Electives

39

Total

192
Degree Requirements—Motion Picture Production

Bachelor of Fine Arts Degree

The Bachelor of Fine Arts degree is designed to give students preprofessional training for vocations closely related to film and video production while simultaneously providing them with the opportunity to develop their creative faculties.

General Education Requirements 60

Required substitutions: TH 201 and 202

Departmental Requirements 77


Additional courses in motion picture history, theory, and criticism, to be chosen from TH 331, 332, 333, 399, 435, 499 28

Related Requirements 21

COM 151 and 252; or LCS 455 and 456
ART 207, 258, 259
MUS 121 or 214

Electives 34

Total 192

Theatre

Students who wish to study theatre choose from four professional degree programs leading to the Bachelor of Fine Arts degree, or from the Bachelor of Arts degree in theatre studies. The professional programs are acting, arts management, design/technology, and directing/stage management.

Admission for the acting program is by audition only. Beginning in the fall of 1988, students wishing to enter the design/technology or directing/stage management programs must successfully audition or interview for admission. An open admissions policy remains in effect for first-term freshmen in the arts management and theatre studies programs. Transfer students are required to audition or interview for all programs. Each B.F.A. program has established criteria for selective retention, which include the provision that, by the end of the freshman year, a grade point average of 2.0 must be achieved before students are formally accepted as majors. A majority of the specific programs require higher minimum grade point averages for graduation. The policies are articulated in the following sections and in the Theatre Arts Student Handbook which is issued annually. Students are required to consult quarterly with an academic adviser.

Students who wish to prepare for teaching on the secondary level must follow a theatre-English dual major in the College of Education and Human Services.

Degree Requirements—Acting

Bachelor of Fine Arts Degree

The acting program is an intensive four-year progression of studies in acting, voice, movement, dance, and singing. Because of the necessarily sequential nature of the acting program, students are generally admitted only in the fall quarter. The third and fourth years are devoted to a Professional Actor Training program which is necessarily limited to selected, superior students of serious intent capable of high achievement in acting. Admission to the Professional Actor Training program is by audition only at the end of the sophomore year. The first two years of the acting program are in preparation for this audition. Retention in the program is based on students' growth and development as judged by the acting faculty. All students in the program must receive a grade of C or better to continue in any of the acting sequences. A 2.5 overall grade point average is required for graduation.

General Education Requirements 60

Required substitutions: TH 201 and 202

Departmental Requirements 104


Related Requirements 27

MUS 141, 142, 143, 110 (nine hours)
DAN 111, 112, 113, 214, 215, 216

Electives 1

Total 192

Degree Requirements—Design/Technology

Bachelor of Fine Arts Degree

The program in design/technology will prepare students for careers in professional theatre as designers (costumes, lights, scenery) or as technicians (technical director, theatre craftspeople). Upon graduation students have three options: further study on the graduate level, apprenticeship to professional designers, or employment in professional theatre. All design/technology majors must undergo an evaluation by the faculty at the end of each year's study. Retention in the program is based on the continual growth of the students as determined by the faculty. Professional theatre internships are available for exceptional students.

General Education Requirements 60

Required substitutions: TH 201 and 202
Degree Requirements—
Directing/Stage Management

Bachelor of Fine Arts Degree

The directing/stage management major completes the first two years of the acting program before specializing during the junior and senior years in courses related to directing. Most students in this major should plan on continuing their studies at the graduate level; students concentrating in stage management are encouraged to consider graduate level 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 apply in writing. Acceptance is based on faculty judgment of the students' potential as professional stage managers or as graduate students in directing. Such qualities as self-discipline, academic record, motivation, and communication and interpersonal skills will be considered. Directing opportunities are reserved for students who have won the confidence of the faculty by having demonstrated theatrical knowledge and skills, responsibility and reliability, good judgment, and effective interpersonal relations. Beginning with fall of 1988, students are admitted to the program following a successful audition or interview.

General Education Requirements

Required substitutions:
TH 201 and 202

Departmental Requirements

TH 120, 131, 144, 145, 146, 222, 240, 241, 242, 244, 245, 246, 254, 255, 256, 257, 258, 259, 290, 350, 352, 360, 361, 366, 367, 368, 399, 410 (three to six hours), 450, 451, 452

Related Requirements

DAN 111, 112, 113
MUS 141, 142, 143, or 110 (three hours)

Electives

Total

192

Degree Requirements—

Theatre Arts Management

Bachelor of Fine Arts Degree

Students may major in theatre arts management by combining studies in theatre and the other arts with studies in the College of Business and Administration. Students who pursues this program must complete forty-five credit hours of required courses in accountancy, administration, economics, finance, management, and marketing; fifty-seven to sixty credit hours of required courses in theatre; and twenty-nine credit hours of required courses in art, dance, music, motion pictures, English, communication, and library and communication science.

The theatre arts management major emphasizes the practical application of skills. TH 290 (Theatre Management) provides the basis for applying general business practices to the specific problems of the theatre. TH 110 (six hours) and TH 310 (twelve hours) involve students directly in the activities of the University Theatre production program. Four of the TH 110 hours are devoted to management duties. TH 498 (Professional Theatre Internship) places students as management interns with a professional arts organization, concluding their training program.

A 2.0 grade point average is required for admittance to the theatre arts management major at the end of the freshman year. A 2.5 grade point average is required for graduation. All majors are evaluated after each TH 310 enrollment or at the end of each academic year. Evaluation is based upon students' ability to work effectively with the public, responsibilities in meeting deadlines, and the qualities of professionalism and creativity shown by work in publicity, photography, graphics, writing, and sales. Students with a poor academic record or lack of significant growth may be asked to drop the program, and the department cannot guarantee the automatic right of students to a professional internship, which is a requirement of graduation.

General Education Requirements

Required substitutions:
TH 201 and 202

Departmental Requirements

TH 110 (six hours), 147, 148, 149, 180, 290, 310 (twelve hours), 360, 361, 498, and elective (three hours)

Required Courses in Business and Administration

LAW 350; ACC 201, 202, 203; EC 201, 202, 203; FIN 301, 302; MGT 301, 302, MKT 301, 302, 303, 441

Electives

Total

192
130 Liberal Arts/Theatre Arts

Related Requirements 28

COM 101, 102, 256; MUS 214; ENG 330; LCS 455; ART 211 or 212 or 214

Electives 5

Total 192

Degree Requirements—Theatre Studies

Bachelor of Arts Degree

Students majoring in theatre who elect to work toward the Bachelor of Arts degree combine the advantages of a liberal arts education with preparation for a career in one or more areas of theatre or in areas related to theatre. Students are encouraged to maintain a balance between theory and practice and among the various arts of the theatre, gaining insight and perspective through studies in art, history, literature, music, philosophy, religion, and science.

General Education Requirements 60

Required substitutions: TH 201 and 202

Departmental Requirements 49-51

TH 131, 147, 148, 149, 222, 360, 361, 366, 367, 368 28

Additional electives chosen from:

TH 290, 304, 350, 362, 328, 329, 370, 390 12-14

Additional electives in theatre 9

Foreign Language 20

Electives 61-63

Total 192

Urban Affairs

Director Mary Ellen Mazey

Assistant Directors Gaither Loewenstein, William Pammer

Research Associate Thomas Koebern1ck

Urban Affairs is an undergraduate interdisciplinary program in the College of Liberal Arts administered by the Center for Urban and Public Affairs. The program offers a Bachelor of Arts or Bachelor of Science degree. The objective of the program is to provide students with an appreciation of the urban environment as a complex system and to motivate students to approach urban processes from an interdisciplinary perspective. More specifically, the program is designed to prepare some students for junior or entry-level positions in both local government and selected community agencies. The program may also serve the needs of students preparing for graduate work.

Majors are required to complete a common core of courses and then are asked to select a specialization in one of five areas: urban planning, social planning, public management, criminal justice, or fire administration. With the exception of fire administration, majors may complete all requirements at Wright State. Fire administration is available only to students who have completed an associate degree in fire science technology.

Individuals may apply for admission any time. Students will be notified of acceptance within thirty days. For additional information about the program and admission criteria and procedures, contact the Center for Urban and Public Affairs.

The Center for Urban and Public Affairs is anchored upon the academic undergraduate degree program. Its primary mission, however, is outreach that provides applied research, technical assistance, and data base development to the metropolitan region. Through the applied research orientation, the center provides, primarily through contract research, professional services to a wide range of clients. To provide technical assistance, the center offers workshops, conferences, and seminars to facilitate the exchange of information, particularly in the area of public policy issues, among all sectors of the population. Finally, through data base development, the center provides a broad range of social, economic, political, and geographical data for the Dayton-Springfield metropolitan area, the state, and the nation. These include periodic publications for dissemination.

Degree Requirements—Urban Affairs

Bachelor of Arts Degree

General Education Requirements 57

Departmental Requirements 68

URS 311, 411, 492 14

EC 330 3

GEO 311, 340 8

PLS 321, 345 8

SOC 444 4

HST 216 4

Urban Affairs specialization 27

Related Requirements 4

ENG 330 or 343 4

Foreign Language or Research Methods Requirement 20-24

Electives 39-43

Total 192
Degree Requirements—Urban Affairs

Bachelor of Science Degree

General Education Requirements 57

Departmental Requirements 68

URS 311, 411, 492 14
EC 330 3
GEO 242, 275 8
PLS 321, 345 8
SOC 444 4
HST 216 4
Urban Affairs specialization 27

Related Requirements 26-30

ENG 330 or 343 4
MTH 129, 228, plus two statistics and two computer science courses to be approved by the department 22-26

Electives 37-41

Total (minimum requirement) 192

Criminal Justice Specialization Area
PLS 340, 440, 441 12
SOC 330, 332, or 442 8
Two appropriate courses numbered 300 or above

Urban Planning Specialization Area
GEO 365, 376, 477 12
EC 370, 440 6
Two appropriate courses numbered 300 or above

Urban Management Specialization Area
COM 445 4
PLS 345, 427 8
PSY 304 4
Three appropriate courses numbered 300 or above

Fire Administration Specialization Area
PLS 345, 427 8
PSY 304 4
EC 432 4
Three appropriate courses numbered 300 or above

Social Planning Specialization Area
COM 445 4
PSY 351 4
SW 370, 470 8
SOC 360 4
Two appropriate courses numbered 300 or above
The College of Science and Mathematics offers programs leading to both bachelor's and master's degrees in several disciplines. The Bachelor of Science degree is offered in biology, chemistry, environmental health, geological sciences, mathematics, physics, and psychology. The college also offers a Bachelor of Science in Medical Technology degree.

Bachelor of Arts programs are available in biological sciences, chemistry, geological sciences, mathematics, and psychology. In addition, interdisciplinary baccalaureate programs are offered by some of the 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 specific interest with the college adviser. Dual majors will receive a Bachelor of Science degree when both cooperating 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.

Admission and Advising

Admission to the college is by application. After consultation in the office of the dean, students will be assigned an adviser in the appropriate department who will assist them in developing a program of study.

Master of Science Degree

Programs leading to a Master of Science degree are offered in biology, chemistry, geological sciences, mathematics, and physics. There are also two graduate programs intended primarily for secondary school teachers. The Master of Science in Teaching with specialization in earth science is offered by the geological sciences department and the physics department offers the M.S.T. with a specialization in physics.

The College of Science and Mathematics and the College of Liberal Arts participate in a multidisciplinary program leading to the degree of Master of Arts in applied behavioral science. The program is jointly administered by a steering committee with representatives from the Departments of Psychology, Political Science and Urban Affairs, and Sociology and Anthropology.
Doctor of Philosophy Degree

A Ph.D. degree program in biomedical sciences is cooperatively administered by the College of Science and Mathematics and the School of Medicine. The biomedical sciences program is staffed by the largest program faculty on campus. This doctoral program requires approximately four years of study. The first year curriculum consists of an interdisciplinary basic biological core with accompanying mathematical applications. Advanced interdisciplinary courses and laboratory practica are offered in the second year. After successfully completing candidacy examinations, students will pursue scholarly research, present seminars, and gain teaching experience. Final degree requirements are met by satisfactorily defending an acceptable written dissertation.

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 forty-five credit hours at Wright State. At least fifteen of the last forty-five hours for the degree must be taken in residence.
3. complete at least 183 credit hours of acceptable academic work with at least a 2.0 cumulative grade point average 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 seventy-five credit hours in advanced courses (numbered 200 and above) applicable to the degree.
5. complete at least fifty-four credit hours in one department; by permission of the department chair, up to eighteen 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 ninety-five credit hours outside the major department.

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 the requirements.

Cooperative Education Program

The cooperative education program permits students to integrate work experience into their academic programs. The nonacademic credit model is available in the departments of the College of Science and Mathematics.

Teacher Certification

Students seeking certification to teach in secondary schools should make application for admission to the teacher certification program at the beginning of their sophomore year. These students should contact a teacher certification adviser in the College of Education and Human Services.
Anatomy

Professor Zambernard (chair)
Voluntary Professor Pantoja
Associate Professors Nagy, Pearson, Ream, Scott
Voluntary Associate Professors Makkar, Phillips
Assistant Professors Cohen, Jennes, Kuntzman, Nieder

The Department of Anatomy encompasses the areas of gross anatomy, microanatomy (histology, cell biology, electron microscopy [TEM and SEM]), embryology, and neuroanatomy. The department provides limited course work at the undergraduate level for students planning to enter medicine, nursing, and other health-related professions. Our department also provides course work at the professional level under the auspices of the School of Medicine and the College of Science and Mathematics. Although the department does not offer a graduate degree in anatomy, students may develop a concentration in anatomy for a Master of Science degree in biology.

Biological Chemistry

Professors Batra, Kmetec, Varandani, Weisman (chair)
Associate Professors Alter, Fritz, Organisciak
Assistant Professors Cruz, Paletta, Prochaska

The Department of Biological Chemistry offers courses in the molecular aspects of cellular processes and components, as well as in nutrition. Although the department does not offer a formal baccalaureate degree program, it can serve as an area of concentration for those interested in obtaining a background prior to pursuing a career in medicine and related biomedical sciences.

Honors Program

Under the biological sciences honors program, it is possible for a student to do an undergraduate honors thesis with a faculty member from the Department of Biological Chemistry. Students interested in this area of study need background courses in biology, other life sciences, and chemistry.

Biological Sciences

Professors Arlian, Honda, Hubschman, Kantor
Associate Professors Amon, Barbour, Carmichael, Rake, Rossmiller (chair), Runkle, Seiger, Wood
Adjunct Associate Professor Lucas
Assistant Professors Burton, Fink-Charbonneau, Foley, Goldstein, Hull, Mamrack
Instructor Corban

Medical Technology Clinical Year Program
Instructors Schnegelberger (program director), O’Laughlin

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 health, and Master of Science in biology. A dual major program with chemistry is available.

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 provide excellent opportunities for terrestrial and aquatic field studies.

Individual programs of study are planned with the assistance of a departmental adviser within the framework of university, college, and departmental requirements. Many undergraduate students include faculty-guided, independent study research projects in their academic programs.

Biological Sciences Honors Program

An honors program enables qualified students to carry out an independent project under the guidance of a faculty sponsor. Students who have maintained a cumulative grade point average of 3.4 during the preceding three quarters may petition the Department of Biological Sciences to pursue an honors program. Application for admission to the program should be made during the junior year. Information concerning this program is available from the departmental office.

Biological Sciences

The Bachelor of Science curriculum offers a broad, integrated, in-depth approach to the life sciences. The departmental unit consists 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, Biological Chemistry, and Microbiology and Immunology.
Within this degree, several different options are open to students. Programs of study for students with such differing interests and objectives as graduate work in molecular biology, laboratory work in microbiology, field work in ecology, or preprofessional preparation for medical, dental, or veterinary sciences can be accommodated. The biobusiness option contains a business minor. Other curricular options within the Bachelor of Science degree in biology are general, genetics, microbiology, premedical, toxicology, and ecology. All of the options for the Bachelor of Science degree in biological sciences have a similar pattern of course requirements which is outlined for the general option in the following section. The curriculum outlines for the other options are available from departmental faculty advisers and in the departmental office. Students will formulate a specific plan of study in consultation with their faculty advisers.

Degree Requirements—Biological Sciences

Bachelor of Science Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 42
Required substitutions, which are also major program requirements:
Area Four—BIO 111, 112, 114
Area One—MTH 132 and 133 or STT 164 and 265

Departmental Requirements 75-76
Area A (three courses)
BIO 111, 112, and 114 12
Area B (three courses)
BIO 202, 203, 204, 205, 206 15
Area C (three courses)
BIO 302/312, 303, 304, 305/308, 306, 403 15-16
Area D (one course)
BIO 307 or 402/405 6
Area E
BIO 492 2
Area F (life science electives)
A minimum of twenty-five hours selected from 300- and 400-level courses in the Department of Biological Sciences. Courses in physiology, microbiology and immunology, anatomy, or biological chemistry may also be used to fill Area F requirements. In certain specified programs, up to ten hours of this requirement may be elected from 300- or 400-level courses in other departments in the College of Science and Mathematics. Students should consult the adviser regarding recommendations for specific programs. 25

Required Supporting Courses 65-70.5
CHM 121, 122, 141
CHM 211/215, 212/216, 213/217
PHY 111/101, 112/102, 113/103 or 240/200, 241/201, 242/202
MTH 132, 133, 231; or MTH 132 or 228, and STT 164/165, 265/266, or 466, 467 13-15
Each student must also complete a laboratory course in analytical chemistry or a course in computer science. 4-7.5
Electives 7.5-14
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 elective credits allows students considerable flexibility in meeting their individual educational objectives. Students will formulate a specific plan of study in consultation with their faculty advisers.

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 45
Required substitutions, which are also major program requirements:
Area Four—BIO 111, 112, 114

Departmental Requirements 50-51
Area A (three courses)
BIO 111, 112, 114 12
Area B (three courses)
BIO 202, 203, 204, 205, 206 15
Area C (three courses)
BIO 302/312, 303, 304, 305/308, 306, 403 15-16
Area D (one course)
BIO 307 or 402/405 6
Area E
BIO 492 2
Area F (life science electives)
A minimum of twenty-five hours selected from 300- and 400-level courses in the Department of Biological Sciences. Courses in physiology, microbiology and immunology, anatomy, or biological chemistry may also be used to fill Area F requirements. In certain specified programs, up to ten hours of this requirement may be elected from 300- or 400-level courses in other departments in the College of Science and Mathematics. Students should consult the adviser regarding recommendations for specific programs. 25

Required Supporting Courses 47
CHM 121, 122, 141
CHM 211, 212, 213, 215
PHY 111/101, 112/102, 113/103
MTH 130 3
Must include ten hours (300 level or above) in the Department of Biological Sciences, and twenty-seven hours in academic courses in departments outside the College of Science and Mathematics and the College of Engineering and Computer Science. At least twenty-three of the elective hours must be in courses at the 200 level or above.

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 successful completion of the program, students receive the Bachelor of Science in Medical Technology degree and are 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.

Wright State has affiliation agreements with the following medical technology programs which supply the clinical laboratory education: Good Samaritan Hospital, Kettering Medical Center, St. Elizabeth Medical Center, and Wright State University. Through special arrangements, students may obtain their clinical education in other NAACLS accredited schools of medical technology after receiving approval from the chair of the Department of Biological Sciences.

In the fall quarter of their preclinical year, students apply, through the department, to the medical technology programs for admission into the clinical laboratory program. Criteria used to determine admission of individual students by the medical technology programs include the academic record, letters of recommendation, and results of a personal interview. Responsibility for acceptance of individual students resides with the affiliated medical technology clinical programs. The number of positions in the class for each medical technology clinical program is limited.

Students may enter the clinical training program only after completion of the prescribed program of study at the university (a minimum residence of one year is normally required).

Degree Requirements—Medical Technology

Bachelor of Science in Medical Technology Degree

General Education Requirements (total hours: 57)

Areas One through Four (not counting substitutions listed below) 42

Required substitutions, which are also major program requirements:
Area Four—BIO 112, 208, 209
Area One—STT 164, 265

Departmental Requirements 43

BIO 112, 208, 209 13
BIO 202, 302, 303, 305/308 19
BIO 402/405, 476/477 11

Required Supporting Courses 60.5

CHM 121, 122, 141 15
CHM 211/215, 212/216, 213/217 18
CHM 312/314 7.5
MTH 129; STT 164/165, 265/266 11
M&L 426, 427, 428 9

Clinical Program 52

BIO 434 through 449 or MT 434 through 449

Total 197.5

In a program such as this, the sequence in which courses are taken is of extreme importance. The required program should be followed and all individual student course schedules should be planned with an adviser.

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 competencies and 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 among five cooperating affiliated clinical facilities: Veterans Administration Center, Wright-Patterson Medical Center, Greene Memorial Hospital, Community Hospital of Springfield and Clark County, and the Frederick A. White Center at Wright State. Upon successful completion of 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

Criteria for admission to the clinical year program are stipulated by the Committee on Allied Health Education and Accreditation of the American Medical Association, developed in cooperation with the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Prerequisite content areas shall include chemistry, organic and/or biochemistry, general biological sciences, microbiology, immunology, and mathematics. The applicant must also have a baccalaureate degree or be eligible for one upon completion of the clinical program.

Degree-eligible applicants from nonaffiliated universities will be considered. These applicants must also meet NAACLS requirements prior to entrance.

Applicants who possess a foreign baccalaureate degree must meet NAACLS criteria prior to entrance into the clinical year program.

Admission to Wright State University does not automatically ensure admission into the clinical year program.

Applicants should submit application materials and schedule an interview with the Medical Technology Program director during the fall quarter of the year preceding entry into the program. Applications from students enrolled at Wright State University are processed by the Department of Biological Sciences.

Curriculum Outline

Course Requirements

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Environmental Health

The curriculum in environmental health provides students with a sound academic background and the specialized training and experience needed to work effectively in several areas involving the environmental aspects of human health. Career opportunities include work in public health and environmental protection agencies, environmental consulting firms and analytical laboratories, health and safety programs in industries, or advanced study in graduate programs in public health and environmental sciences. A field internship program, operated in cooperation with participating environmental health agencies or industries, affords an opportunity for practical experience in a working situation. The program of study which meets the needs and interests of the students is planned in consultation with a departmental adviser.

Degree Requirements—Environmental Health

Bachelor of Science Degree

General Education Requirements (total hours: 57)

Areas One through Four (not counting substitutions listed below) 42

Required substitutions, which are also major program requirements:

Area Four—BIO 112, 208, 209
Area One—STT 164/265

Environmental Health Core

EH 292, 360, 362, 364 10
EH 366 (field internship) 9
EH 461, 462, 463, 466/467, 468/469 18

Required Supporting Courses 101

BIO 111, 112, 202, 208, 209, 413, 415, 464/475, 476/477, 492 43
CHM 121, 122, 141, 211, 212 23
MTH 228; SST 164/165, 265/266 13
PHY 111/101, 112/102, 113/103 15
CS 141 or 205; MGT 200 7

Electives 18

Courses must be selected from an approved list in consultation with a faculty adviser.

Total 198

In a program such as this, the sequence in which courses are taken is of extreme importance. The required program should be followed and all individual student course schedules should be planned with an adviser.

Dual Major Program

The Department of Biological Sciences participates in the university’s dual major program with the Department of Chemistry. Students are referred to the Biological Sciences departmental office for program requirements.
Chemistry

Professors Battino, Cummings, Servé, Seybold, Skinner (Emeritus), Terman

Associate Professors Feld, Fortman, Ghosh (WSU Lake Campus), Hess (chair), Kane, Katovic, Turnbull

Adjunct Associate Professor Spanier

Assistant Professors Bombick, Cook (Emeritus), Grossie, Ketcha

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 advisers. The Bachelor of Science program is approved by the American Chemical Society.

Chemistry Honors Program

Qualified students may be admitted to the departmental honors program during their second or third year. The program involves work beyond the minimum course requirement for the B.S. degree with emphasis on independent studies.

Degree Requirements—Chemistry

Bachelor of Science Degree

The Bachelor of Science candidate is required to complete the chemistry, mathematics, and physics course sequences in the following program outline with these exceptions: CHM 499. Special Problems in Chemistry, is not required; however, it is expected that the serious chemistry major will complete at least four credit hours of this research course during the senior year. CHM 319, Chemical Literature, is strongly recommended but not required. 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 311, 420, and 421 are not required. Those students must take CHM 313 and 315. The physics requirement may be met with the PHY 111, 112, 113 sequence and PHY 101, 102, 103 laboratories. BIO 111, 112, and 114 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 nine credit hours selected from BCH 421, 423; BIO 402; CHM 420, 421, 440, 441, 465/467, and 466/468. Students serious about medical school should elect BCH 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 adhere closely to the following schedule, bearing in mind that all individual programs are to be planned in consultation with an adviser.

Freshman Year

ENG 101, 102; CHM 121, 122, 141; MTH 132, 133, 231

Sophomore Year

CHM 211/215, 212/216, 213/217; PHY 240/200, 241/201, 242/202

Junior Year

CHM 311, 312/314, 313/315, 319, 451, 452/457, 453/458; PHY 243

Senior Year

CHM 420, 421, 499

General Education Requirements (total hours: 57)

Areas One through Four (not counting substitutions listed below) 42

Required substitutions, which are also major program requirements:

Area One—MTH 132, 133
Area Four—CHM 121, 122, 141

Departmental Requirements 74.5

CHM 121, 122, 141; 211/215, 212/216, 213/217 33

CHM 311, 312/314, 313/315; 451, 452, 453 31.5

CHM 420, 421, 457, 458 10

Related Course Requirements 32

MTH 132, 133, 231 15

PHY 240/200, 241/201, 242/202, 243 17

Electives 47.5

Twenty-one hours of foreign language recommended

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 twelve 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 twenty-seven credit hours (eighteen 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 thirty hours in courses numbered 300 or higher applicable to the degree.

General Education Requirements (total hours: 57)

| Area One through Four (not counting substitutions listed below) | 42 |
| Required substitutions, which are also major program requirements: |  |
| Area One—MTH 132, 133 |  |
| Area Four—CHM 121, 122, 141 |  |

Departmental Requirements 53.5

| CHM 121, 122, 141; 211/215, 212/216, 213/217 | 33 |
| CHM 312/314; 451, 452/457, 453/458 | 20.5 |

Related Course Requirements 28.5-30

| MTH 132, 133, 231 | 15 |
| PHY 240/200, 241/201, 242/202, 243; or 111/101, 112/102, 113/103 | 13.5-15 |

The foreign language requirement may be satisfied with two years of study in any foreign language or Related Course Requirements 40.5-44

| Science electives | 12 |

| Additional Courses outside Science and Mathematics and Engineering and Computer Science | 27 |
| Electives | 8.5-12 |

Total (minimum requirement) 196

**Geological Sciences**

**Professors** Gregor, Kulander, Pushkar, Richard, Schmidt, Toman, Unrug (chair)

**Associate Professors** Kramer, Wolfe

**Assistant Professors** Brakenridge, Carney, Kenoyer, Loaiciga

The Department of Geological Sciences offers degree programs leading to the Bachelor of Science and Bachelor of Arts degrees with a major in geological sciences. Both programs are designed to include geology and related sciences and to prepare students for graduate study or professional employment. The Bachelor of Arts program is intended to be more flexible and to permit students with either broad or specialized interests to fulfill their program needs. The Bachelor of Science program is more highly structured and, through the various options offered, is intended to prepare students for rather specific professional or technical objectives. The Bachelor of Arts program's flexibility readily permits interdisciplinary programs such as the dual major, in which students may major in two quite different fields simultaneously. Prospective geological sciences majors will remain in the University Division for administrative purposes until completion of GL 251 and 252 and MTH 130, but interested students should contact the department chair as early as possible so they can be assigned a provisional departmental adviser pending formal admission to the program of their choice. A 2.20 grade point average is required for admission into any geological sciences program of study.

The department has modern equipment for use in teaching and individual student investigations. Comparison and research collections in both paleontology and mineralogy are maintained.

Field geology is taught at the Wright State Geological Field Station in Tennessee, near the Great Smoky Mountains National Park. The station is adjacent to the western end of the Smoky Mountains, and field areas in several different geologic and physiographic provinces are readily accessible. Field trips are taken to mines and related geologic areas in eastern Tennessee and western North Carolina.
The department seeks to offer a broad spectrum of educational options within a framework of sound academic guidelines, because personal objectives, interests, and aptitudes vary considerably with each individual. Students majoring in geological sciences have considerable choice in the basic program, options, and elective courses. Students should be aware of these choices as early as possible, and because course sequencing, particularly in Bachelor of Science options, is a critical factor, all students are strongly urged to consult their advisers to develop an individual program.

Supporting electives are courses in science and engineering (exclusive of geology and psychology) that are not normal preparation or prerequisites for required courses.

Minor modifications in departmental programs will be made from time to time. It is the responsibility of students to confer with their advisers periodically during the academic year, preferably once each quarter before the registration period.

**Geological Sciences Honors Program**

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 member of the faculty.

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 adviser, and that of the senior thesis adviser as well if not the same.
5. Candidates will be encouraged to attend at least one interdisciplinary honors seminar.

*The senior thesis is to be represented by a total of between six and nine 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 of geological sciences electives in the case of the B.A. degree. It shall be judged only as satisfactory or unsatisfactory, without being awarded a letter grade. The topic may be chosen from any branch of geological sciences; current course listings in this catalog may be taken as a rough indication 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 adviser 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.*

**Degree Requirements—Geological Sciences/General Geology Option**

**Bachelor of Science Degree**

The Department of Geological Sciences offers a Bachelor of Science degree in geological sciences with a general geology option. The course requirements and recommended course sequences follow.

**General Education Requirements (total hours: 57)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Requirements</th>
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</thead>
<tbody>
<tr>
<td>One</td>
<td>MTH 132, 133</td>
</tr>
<tr>
<td>Four</td>
<td>GL 251, 252, 253, 254, 255, 256</td>
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</table>

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GL 251, 252, 253, 254, 255, 256, 301, 311</td>
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<tr>
<td>GL 330, 333, 410, 412, 428, 429, 434</td>
</tr>
<tr>
<td>Geological sciences electives</td>
</tr>
</tbody>
</table>

**Related Course Requirements**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHM 121, 122, 141</td>
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<tr>
<td>CS 210 or 141 and 142</td>
</tr>
<tr>
<td>PHY 240/200, 241/201, 242/202</td>
</tr>
<tr>
<td>MTH 132, 133 and one course from MTH 231, STT 265, 360, 466</td>
</tr>
<tr>
<td>Supporting electives from College of Science and Mathematics</td>
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</tbody>
</table>

**Electives**

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<tr>
<th>Course</th>
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<td>20</td>
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**Total**

<table>
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<tr>
<th>Hours</th>
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<td>198.5-205.5</td>
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</tbody>
</table>

The following courses are suggested for the freshman year: CHM 121, 122, 141; ENG 101, 102; GL 251, 252, 253, 254, 255, 256. Following the freshman year, the departmental adviser should be consulted for program planning.

**Degree Requirements—Geological Sciences/Geophysics Option**

**Bachelor of Science Degree**

The Department of Geological Sciences, in cooperation with the Department of Physics, offers a Bachelor of Science degree in geological sciences with a geophysics option. This program prepares the student to assume a career in this field or to pursue graduate study in geophysics.
General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 42
Required substitutions, which are also major program requirements:
Area One—MTH 132, 133
Area Four—GL 251, 252, 253, 254, 255, 256

Departmental Requirements 114.5-119.5
GL 251, 252, 253, 254, 255, 256 13.5
GL 301, 311, 333, 434, 410 30
GL 412, 422, 423, 424, 426, 428 21
CS 210 or 141 and 142 3-8
PHY 240/200, 241/201, 242/202, 243, 260 21
Geological sciences or physics electives 26

Related Course Requirements 40
CHM 121, 122, 141 15
MTH 132, 133, 231, 232, 233 25
Electives 11

Total 207.5-212.5

The recommended sequence is as follows:

Freshman Year
CHM 121, 122, 141, ENG 101, 102; GL 251, 252, 253, 254, 255, 256; MTH 132, 133, 231

Sophomore Year
GL 301, 311, 412, MTH 232, 233, PHY 240/200, 241/201, 242/202; General Education courses

Junior Year
CS 210, GL 312, 333, 434; PHY 243, 260

Senior Year
GL 422, 423, 424, 426, 428; geological sciences electives; physics or mathematics electives; General Education courses

Degree Requirements—Geological Sciences
Bachelor of Arts Degree
The Bachelor of Arts curriculum is designed for students who desire scientific training, especially through interdisciplinary programs. Because of its broader and more flexible approach, students who elect to follow a Bachelor of Arts program must demonstrate specific educational objectives that can be reasonably attained through this program.

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 42
Required substitutions, which are also major program requirements:
Area One—MTH 132, 133
Area Four—GL 251, 252, 253, 254, 255, 256

Departmental Requirements
66
GL 251, 252, 253, 254, 255, 256, 201, 255, 256, 309, 311, 333, 365, 421, 428, 429, 434, 451, 499
Geological sciences electives 8

Related Course Requirements 66-70
ACC 201, 202, 203 9
MGT 100 3
CHM 101, 102 9
CS 141 4
EC 201, 202 6
EGR 121 2.5
FIN 301, 302 6
MGT 200 3
MTH 131, 132, or STT 164, 165 4.8
MS 201 3
Skills requirement* 16.5
Electives 17

Total 191-195

*This requirement is intended either to broaden or deepen existing or newly gained skills, e.g., data processing in addition to CS 141, 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.
Each mathematics major is assigned an adviser from the department faculty. As early as possible in the student’s college career, the adviser should be consulted regarding the important choice of which mathematics major program to follow. Likewise, the selection of which courses to take and when to take them should be discussed with the adviser. Written advisory materials to assist mathematics majors are available in the department office. However, there is no substitute for regular in-person consultation with the faculty adviser. Moreover, the adviser must approve all courses intended to satisfy program requirements.

Mathematics and Statistics
Honors Program
Mathematics majors who have demonstrated superior ability in upper-level mathematics and statistics courses may undertake an honors program with the approval of the department. Further information is available from the departmental office.

Degree Requirements—
Mathematics/Pure Mathematics Concentration
Bachelor of Science Degree

General Education Requirements (total hours: 57)

<table>
<thead>
<tr>
<th>Areas One through Four (not counting</th>
<th>substitutions listed below)</th>
<th>Required substitutions, which are also major program requirements:</th>
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<tbody>
<tr>
<td></td>
<td>42</td>
<td>Area One—MTH 132, 133</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Area Four—PHY 240/200, 241/201, 242/202</td>
</tr>
</tbody>
</table>

Departmental Requirements 69

Required Courses
MTH 132, 133, 231, 232, 233, 280, 355, 431, 432, 433 (or 434), 451, 452

Recommended Courses
MTH 433, 332 or 434

Elective Courses

Related Course Requirements 23
CS 141 and 142 or equivalent
PHY 240/200, 241/201, 242/202

Electives 49
Foreign language study recommended

Total 183
Degree Requirements—
Mathematics/Computing Concentration
Bachelor of Science Degree

General Education Requirements (total hours: 57)

Areas One through Four (not counting substitutions listed below) 54

Required substitutions, which are also major program requirements:
Area One—MTH 132, 133

In Area Four, physics is recommended for the natural sciences requirement. If physics is chosen, then either PHY 240/200, 241/201, 242/202, or PHY 111/101, 112/102, 113/103, 210 is a required substitution.

Departmental Requirements 61

Required Courses
STT 360, 361

At least one of the following: MTH 431, 451, 457

Elective Courses
MTH 306, 407, 410, 431, 432, 450, 451, 452, 457
STT 428
(MTH 407, 410, 450 are recommended)

Related Course Requirements 28

CS 141, 142, 146, 400

At least three from:
CEG 320, 430, 431; CS 405, 433, 466, 470, 480;
MTH 476, 477

Electives 40

Total 183

Degree Requirements—
Mathematics/Statistics Concentration
Bachelor of Science Degree

General Education Requirements (total hours: 57)

Areas One through Four (not counting substitutions listed below) 54

Required substitutions, which are also major program requirements:
Area One—MTH 132, 133

In Area Four, if physics is chosen for the natural sciences requirement, then either PHY 240/200, 241/201, 242/202, or PHY 111/101, 112/102, 113/103, 210 is a required substitution.

Departmental Requirements 60

Required Courses
MTH 132, 133, 231, 232, 355
STT 360, 361, 461, 462, 466, 467

Electives 32

Total 183

Degree Requirements—
Mathematics/Statistics Concentration
Bachelor of Science Degree

General Education Requirements (total hours: 57)

Areas One through Four (not counting substitutions listed below) 42

Required substitutions, which are also major program requirements:
Area One—MTH 132, 133
Area Four—PHY 240/200, 241/201, 242/202

Departmental Requirements 68

Required Courses
MTH 132, 133, 231, 232, 233, 280, 355, 360, 361, 431, 432

Two of the following three pairs:
MTH 316, 317; MTH 332, 333;
STT 360, 361

At least three of the following:
MTH 306, 407, 458, 480, 481, 482

Elective Courses
MTH 306, 407, 433, 434, 450, 451, 452, 457, 458, 480, 481, 482
STT 428, 461, 462

Related Course Requirements 41

CS 141, 142

At least twelve hours of advanced technical electives, which must be approved by the department.

Electives 32

Total 183
Degree Requirements—Mathematics

Bachelor of Arts Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 54
Required substitutions, which are also major program requirements:
Area One—MTH 132, 133

Departmental Requirements 60

Required Courses
MTH 132, 133, 231, 232, 280, 355, 431, 440, 451, 471
STT 360, 361
MTH 432 or 452

Elective Courses
STT 401, 461, 462, 466, 467

Related Course Requirements 38

Electives 31

Foreign language study is recommended

Total 183

Dual Major

Special programs of study are available for students interested in a dual major in mathematics and either computer science, engineering, or physics. Requirements can be obtained in the Department of Mathematics and Statistics office. Dual major programs may be arranged for students with other interdisciplinary interests. Basic requirements follow and must be integrated with a corresponding program from another participating department. All programs require a minimum of 183 credit hours.

Dual Major Degree Requirements—Mathematics

Bachelor of Science Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 54
Required substitutions, which are also major program requirements:
Area One—MTH 132, 133
In Area Four, If physics is chosen for the natural sciences requirement, then either PHY 240/200, 241/201, 242/202 or PHY 111/101, 112/102, 113/103, 210 is a required substitution.

Departmental Requirements 45

Required Courses
MTH 132, 133, 231, 232, 355
At least two of the following:
MTH 431, 432, 434, 451, 452, 457, 458, 480, 481, 482
STT 461, 462

Elective Courses
STT 360, 361, 461, 462, 466, 467

Related Course Requirements 8

CS 141 and 142 or equivalent

Dual Major Degree Requirements—Mathematics

Bachelor of Arts Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting the substitution listed below) 54
Required substitutions, which are also major program requirements:
Area One—MTH 132, 133

Departmental Requirements 45

Required Courses
MTH 132, 133, 231, 232, 355
At least two of the following:
MTH 431, 432, 434, 451, 452, 457, 458
STT 461, 462

Elective Courses
STT 360, 361, 461, 462, 466, 467

Related Course Requirements 8

CS 141 and 142 or equivalent
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 thirty credit hours of approved courses; specific requirements follow.

Minor Requirements—Mathematics

Departmental Requirements 30

Required Courses
MTH 132, 133, 231, and either MTH 253 or 355

Elective Courses
STT 360, 461

Only one of MTH 253 and 355 can count toward the minor. 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 attained in all minor courses at this level.

Minor Requirements—Statistics

Departmental Requirements 30

Required Courses
MTH 132, 133, and either MTH 253 or 355
STT 360, 361, or equivalent

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 attained in all minor courses at the 300 or 400 level.

Microbiology and Immunology

Professors Bigley, Giron (acting chair), Sawyer, Suriano
Associate Professors McFarland, Smith, Thomas, Warren

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 encompass concepts of diagnostic microbiology, virology, and immunology as well as the principles of immunology, immunobiology, virology, and bacteriology. The biology of host-parasite interactions and the structure-function relationship unique to microorganisms are emphasized. A major in biological sciences with concentration in the area of microbiology and immunology prepares the student for graduate study in these areas or for further training as a diagnostic or research laboratory technologist.

Students who enroll in courses at the 400 level should have completed the biological sciences sequence through BIO 402 as well as CHM 211, 212, 213, and 312. BCH 421, 433, 423 or equivalent are recommended as preparation.

Physics

Professors Hanson, Martin
Associate Professors Andrews (chair), Bambakidis, Hemsky, Jaworowski, Listerman, Wolfe, Wood
Assistant Professors Clark, Farlow, Taylor

The Department of Physics offers a program leading to a Bachelor of Science degree with a major 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 Engineering and Computer Science chapter. 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 Physics Education.

Minimum requirements for a Bachelor of Science degree with a major in physics include successful completion of the required courses, as well as the completion of university and college degree requirements.

In addition to the required courses, it is recommended that every physics major take the following courses: PHY 421, 494, BIO 111, 112, 113. The physics major planning 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.

Physics Honors Program

The Department of Physics has an honors program designed to provide the superior student with a program of greater creativity and intellectual challenge. Students wishing to participate in this program must apply to the department during the spring quarter preceding their participation in the honors program. To participate, students should
Science and Mathematics/Physics

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, completion of PHY 480, 481, 482 and nine hours of honors research (499), with grades of B or better, is required.

Degree Requirements—Physics
Bachelor of Science Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 42
Required substitutions, which are also major program requirements:
Area One—MTH 132, 133
Area Four—PHY 240/200, 241/201, 242/202

Departmental Requirements 62
PHY 240/200, 241/201, 242/202, 243, or equivalent 17
PHY 260, 371, 372 10
PHY 315, 316, 322 10
PHY 420, 450, 451, 452, 460, 461, 462 25

Related Course Requirements 53
MTH 132, 133, 231, 232, 233, 253 28
MTH 332, 333 6
CHM 121, 122, 141 (or 361) 15
CS 210 or equivalent 4
Electives 38

Total 195

Since the order in which courses are taken is important, students should adhere closely to the following suggested program for the required courses.

Freshman Year
PHY 240/200, 241/201, 242/202; ENG 101, 102; MTH 132, 133, 231

Sophomore Year
PHY 243, 260, 315, 316, 371, 372; CHM 121, 122, 141; CS 210; MTH 232, 233, 253

Junior Year
PHY 322, 420, 450, 451, 452; MTH 332, 333

Senior Year
PHY 460, 461, 462

The results of the mathematics placement examination will be used to determine the proper initial mathematics course; see mathematics course descriptions. Students who do not have a strong science and mathematics background might choose to delay PHY 240, 241, 242 until the sophomore year. These schedules would require some adjustment of the junior and senior year curricula. An adviser should be consulted as soon as possible to arrange a suitable program.

The Department of Physics encourages students with interdisciplinary interests to pursue a dual major in physics and a related discipline. A departmental adviser will help students arrange a suitable program of study. In addition, there are three formal physics degree option programs that follow. The department has model programs for each option which are available on request.

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 in physics with a geophysics option. This option is designed for students who plan a career in physics in a geology-related setting or who plan to pursue graduate study in geophysics.

Students following the physics program with the geophysics option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

Geophysics Option Requirements 34
GL 251, 253 6
GL 252, 254 3
PHY 422, 423, 424 13
Electives chosen from:
GL 255, 311, 333, 420, 450, 463 12

In addition to these required courses, it is recommended that students pursuing the geophysics option also take GL 434 and participate in the geophysics seminars.

Degree Requirements—Physics/Computing Option
Bachelor of Science Degree

The Department of Physics offers a program leading to a Bachelor of Science degree in physics with a computing option. This option is designed for students who plan a career in any of the many areas of theoretical or experimental physics which 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 27
CS 141, 142 8
CS 146 4
MTH 257 3
CS 400 4
CS 316, 317 8

Students wishing to learn about microprocessors may wish to take further courses in computer engineering, such as CEG 260, 320, and 360. For such 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.

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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 111, 112, 114</td>
<td>12</td>
</tr>
<tr>
<td>BIO 492 (biophysics emphasis)</td>
<td>1</td>
</tr>
<tr>
<td>CHM 211, 212</td>
<td>12</td>
</tr>
</tbody>
</table>

**Physiology and Biophysics**

**Professors** Glaser, Lauf (chair)

**Associate Professors** Gotshall, Miles, Nussbaum, Sernka

**Assistant Professors** Goldfinger, Josephson, Mechlin, Putnam, Strange, Walter

The Department of Physiology and Biophysics provides a curriculum serving the needs of students who are planning to enter into medicine, nursing, or other health-related professions. Although the department does not offer a degree in physiology and biophysics, students may take physiology and biophysics as part of the Bachelor of Science degree in biological sciences. The Department of Physiology and Biophysics will advise students interested in this medically oriented discipline.

**Psychology**

**Professors** H. Klein, S.J. Klein, Kurdek, Wilson

**Associate Professors** Campbell, Colle (chair), Davis, Kruger, Moss, Page

**Assistant Professors** Chambers, Edwards, Hennessy, Nagy, Weber

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 permits the greatest flexibility in selecting 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. Programs should be supplemented with additional courses which are selected to meet individual goals. Students should obtain a copy of the booklet *Preparation for Graduate Study* from the psychology department and consult with their departmental advisers.

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.

The following courses are suggested for the freshman year: PSY 105, 110; BIO 111, 112, 114; PSY 105, 110 or 111, 112; MTH 127 or 129; ENG 101, 102 and selected courses from General Education Areas Two and Three. Following the freshman year, students are advised to obtain supplementary materials from the department and to work closely with their assigned advisers. Because of the breadth of psychology, a variety of different educational options exist. 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. Credit hours in psychology may not be less than sixty-five for a Bachelor of Arts and seventy-three for a Bachelor of Science degree.

**Psychology Honors Program**

Application for admission to the program should be made before the beginning of the senior year. Students usually apply at the end of the sophomore year. After acceptance, students enroll in one departmental honors seminar each academic year. Part-time students must complete one honors seminar prior to graduation. All students must complete an honors thesis, for which academic credit is granted.
Degree Requirements—Psychology/Academic Concentration
Bachelor of Arts Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 54
Required substitutions, which are also major program requirements:
Area One—STT 164, 265

Departmental Requirements (minimum) 65
PSY 111, 112 or 105, 110 8
PSY 300 5
Four of the following (at least one from each group) 16
PSY 311, 331, 341, 351
PSY 321, 361, 371, 391
Four 400-level electives in psychology (excluding 432, 489, 490, 498, 499) 16
Minimum electives in psychology 20

Related Course Requirements 36
STT 164, 265 6
One additional course in Science and Mathematics or Engineering and Computer Science outside psychology 3
Electives outside of Science and Mathematics and Engineering and Computer Science 27
Electives 28

Total (minimum requirements) 183

Degree Requirements—Psychology
Bachelor of Science Degree

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 54
Required substitutions, which are also major program requirements:
Area One—STT 164, 265

Departmental Requirements (minimum) 73
PSY 111, 112, or 105, 110 8
PSY 300 and 400 9
Five of the following (at least two from each group): 20
PSY 311, 331, 341, 351
PSY 321, 361, 371, 391
Two courses from the following: 8
PSY 323, 333, 343, 353, 363, 373, 393
Four 400-level electives in psychology (excluding 432, 489, 490, 498, 499) 16
Minimum electives in psychology 12

Related Course Requirements 17
MTH 129 or 129 3
STT 164, 265 6
CS 141 4
CS 142 or PSY 401 4
Electives 39

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 find employment in industry and government. They are also well prepared for graduate study in engineering psychology, experimental psychology, or human factors. There are three programs of study within the human factors concentration: human factors/experimental psychology; human factors/computer science; and human factors/biomedical science. The following requirements are for the human factors/experimental psychology concentration. The requirements for the other programs of study can be obtained from the department.

Degree Requirements—Human Factors Concentration/Experimental Psychology

General Education Requirements (total hours: 57)
Areas One through Four (not counting substitutions listed below) 40.5
Required substitutions, which are also major program requirements:
Area One—STT 164, 265
Area Four—PHY 111/101, 112/102, and 113/103, or PHY 240/200, 241/201, and 242/202

Departmental Requirements (minimum) 73
PSY 111, 112, or 105, 110 8
PSY 300, 400 9
PSY 321, 331, 351, 371, and 391 20
PSY 323 and 373 8
PSY 401, 421, 465, and 471 16
PSY 306 4
PSY 304 4
PSY 432, 498, or 499 4

Related Course Requirements 40.5-41.5
PHY 111, 112, 113, or 240, 241, 242 13.5
STT 164, 265 6
MTH 132, 133 10
CS 141, 142 8
EGR 142, or MTH 253, or PHY 243 3.4
Electives 28-29

Total (minimum requirements) 183
Nursing
The nursing program, which leads to a Bachelor of Science in Nursing degree, is designed to meet students' individual needs. A program is also available for registered nurses seeking a B.S.N. An honors program is available for students with high academic ability.

The nursing program at Wright State is accredited by the National League for Nursing. It is approved by the State of Ohio Board of Nursing Education and Nurse Registration. Graduates of the program are eligible for the National Council (of State Boards) Licensure Examination (NCLEX) for licensure as registered nurses.

### Admission and Promotion

The baccalaureate program in nursing is an upper division major. Admission to Wright State University does not ensure admission to the School of Nursing.

Students are admitted to the School of Nursing on a competitive basis. The number of students accepted for admission is limited by the availability of resources for quality education. Students must show proof of high school graduation or its equivalent and be admitted to Wright State University as a matriculant (degree-seeking) student to be considered for admission to the School of Nursing.

All students must have a cumulative grade point average of at least 2.5 to enter the School of Nursing. All entering students must also have a grade of C or better in anatomy, physiology, nutrition, biology, chemistry, pharmacology, microbiology, pathophysiology, and mathematics to meet prerequisite requirements for the clinical nursing courses.

Students are required to earn a grade of C (2.0) or better in each nursing course. Grades in these courses are based on the student's satisfactory performance in both the classroom and in the clinical laboratory. A satisfactory grade in both classroom and clinical laboratory work must be achieved to pass the course. Students must also maintain a 2.0 total cumulative grade point average to continue in nursing courses.

### Admission Criteria

#### New Freshman Students

All new students interested in nursing will be admitted to the university as prenursing students. All students will be advised in the University Division until they meet the following three criteria: They must complete fifty-nine quarter credit hours; a cumulative grade point average of 2.5 or higher is required, as
well as a C or better in all science courses and MTH 105; and students must successfully complete ENG 101 and 102, PSY 111 and 112, CHM 101 and 102, MTH 105, COM 102, ANT 201, and M&l 220. Students may then be admitted to the School of Nursing to complete their program.

Transfer Students and Registered Nurses
Transfer students and registered nurses must meet the same requirements as the new freshman students. If students do not have the necessary prerequisites, they will be admitted as prenursing students and advised in the University Division until they meet the requirements as listed for new students, including a grade point average of 2.5 or above. Transfer students with ninety or more credits will be advised in the School of Nursing.

Transfer students with baccalaureate nursing credits from another accredited nursing program will have their nursing credits evaluated in the School of Nursing.

Other Requirements
All students must document fulfilling current health requirements, including immunizations, and certify they are in good health and capable of actively participating in clinical experience and fulfilling all program objectives. A physical examination confirming this must be completed by the students' health care provider and sent to the School of Nursing eight weeks before the first clinical nursing course (NUR 217). The documentation of fulfilling health requirements must be repeated each year thereafter. Faculty may request reexamination if evident limitations interfere with clinical practice or learning.

All students are required to purchase liability (malpractice) insurance in the amount specified by the School of Nursing. A form is available in the School of Nursing office. Students must also document evidence of personal health insurance.

Students preparing to enter NUR 217 must submit proof of CPR certification a minimum of eight weeks before NUR 217 begins. CPR certification must be renewed annually.

Students must provide their own transportation to all clinical agencies.

### Nursing

#### Honors Program
Students with high 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. Applications must be made on an honors program application form available in the School of Nursing office. To be eligible, the student must have a 3.2 or higher grade point average for the forty-five credit hours immediately preceding the winter quarter of the student's junior year. Final approval for participation is given by the Honors Committee of the School of Nursing.

#### Curriculum Requirements
A science course can be repeated one time only. A maximum of two science courses may each be repeated once. A student may repeat one nursing course without prejudice. A subsequent failure of any nursing course will result in dismissal from the program. It is essential that students take designated courses in sequence, especially the upper division nursing courses.

Students may elect one of two plans of study. Students who change from one plan to the other will be admitted to the second plan on a space-available basis only.

#### Plan of Study I: for students who choose to complete program in three calendar years plus fall quarter

**Freshman Year**

<table>
<thead>
<tr>
<th>First, Second, Third, and Fourth Quarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101</td>
</tr>
<tr>
<td>ENG 102</td>
</tr>
<tr>
<td>PSY 111</td>
</tr>
<tr>
<td>PSY 112</td>
</tr>
<tr>
<td>MTH 105*</td>
</tr>
<tr>
<td>CHM 101</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Fifth, Sixth, Seventh, and Eighth Quarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&amp;B 301</td>
</tr>
<tr>
<td>P&amp;B 302</td>
</tr>
<tr>
<td>P&amp;B 303</td>
</tr>
<tr>
<td>BCH 250</td>
</tr>
<tr>
<td>PSY 311</td>
</tr>
<tr>
<td>PSY 341</td>
</tr>
<tr>
<td>SOC 360</td>
</tr>
</tbody>
</table>
Junior Year
Ninth, Tenth, Eleventh, and Twelfth Quarters
NUR 312  10  NUR 414 or 415  3
NUR 313  10  PHR 340  4
NUR 411  10  General Education
NUR 412  10  Courses  12

Senior Year
Thirteenth Quarter
NUR 413  10
General Education Course  4

Plan of Study II: for students who choose to complete the program in four academic years plus one sophomore summer

Freshman Year
First, Second, and Third Quarters
ENG 101  4  CHM 101  4.5
ENG 102  4  CHM 102  4.5
SOC 200  4  PHR 311  4
PSY 111  4  COM 102  3
MTH 105*  3  General Education Courses  9

Sophomore Year
Fourth, Fifth, Sixth, and Seventh Quarters
ANT 201  4  PSY 341  4
ANT 202  4  SOC 360  4
P&B 301  5  NUR 209  5
P&B 302  5  NUR 212  3
M&l 220  5  NUR 217  5
BCH 250  4  General Education
PSY 311  4  Courses  9

Junior Year
Eighth, Ninth, and Tenth Quarters
P&B 303  4  NUR 304  3
PHR 340  4  NUR 312  10
NUR 498/Free elective  3  NUR 313  10
NUR 218  5  General Education Courses  6

Senior Year
Eleventh, Twelfth, and Thirteenth Quarters
NUR 411  10  NUR 414 or 415  3
NUR 412  10  General Education
NUR 413  10  Courses  10

*If this requirement is waived, the credit hours may be allocated to elective course.

The School of Nursing faculty reserves the right to revise the nursing requirements or the sequence as deemed necessary at any time to prepare students for new and emerging roles in nursing. Course requirements or sequence scheduling may be changed.

Degree Requirements
Bachelor of Science in Nursing Degree

General Education Requirements  66
Required Substitutions
Natural Science:
CHM 121 or 101, 102
BCH 250
PHR 340
Behavioral Sciences:
PSY 111 and 112 or PSY 105 and PSY 110

Support Courses  42
ANT 201, 202
M&l 220
P&B 301, 302, 303
PSY 311 and 341
SOC 360
COM 102

Nursing Requirements  74
NUR 209, 212, 217, 218, 304, 312, 313, 411, 412, 413, 414 or 415

Free Electives  10
Total  192

Registered Nurses
Wright State University welcomes registered nurses to its program.
A series of three nursing courses (fifteen credit hours) assists registered nurses in the transition to baccalaureate nursing education. These transition courses, NUR 308, 309, and 310, designed to build on the competencies of registered nurses, are taken during the junior year in lieu of the seven nursing courses (thirty-eight credit hours) taken by generic baccalaureate nursing students. Registered nurses will then enroll in the courses designed for all baccalaureate nursing students (NUR 304, 411, 412, 413, and 414 or 415). Of the 192 credits required for graduation, students must complete a minimum of ninety credit hours at Wright State.

Associate degree graduates with a major in nursing may complete all the requirements for the Bachelor of Science in Nursing degree at Wright State University in two calendar years of full-time study. Diploma graduates without university credits will require a longer period of study.
Philosophy

The School of Nursing supports Wright State University's purposes relating to teaching, research, and service. The faculty believe in the acquisition of knowledge from the past and present, as well as exploration of new knowledges, in the advancement of lifelong learning, the search for basic truth, and in the commitment of the university to solution of problems affecting the larger community.

Human existence involves behavioral patterns, constant change, and interaction with biological, psychological, social, spiritual, and other forces in the environment. Although human existence contains elements of similarity, people are the unique products of their genetic heritage in continuous and dynamic interaction with life experiences. Humanity is viewed in terms of ability to act and react in relation to a continuous process of change resulting in increasing complexity. Each individual functions within a set of values with the potential to be a thinking, creative, dignified, rational being.

Society within the human environment is composed of individuals, families, groups, and communities sharing a variety of common goals and values which change as the interests and needs of the members change. Social change evolves through the mutuality of relationships and the interaction of political and social forces which affect the individual's rights, responsibilities, and obligations. These dynamic forces determine the values and expectations placed upon the health care system as an integral part of society. The individual's interaction with the health care system is a reciprocal experience.

Health is the dynamic pattern of functioning whereby there is a continuous interaction with internal and external forces in an attempt to achieve the goal of maximum health potential. Health is influenced by inherent capabilities, growth and development, culture and perception. Human dignity and the quality of life are influenced by the degree of vulnerability to health impairments and depletions. The availability of a variety of resources will influence health and serve to decrease vulnerability.

The practice of professional nursing is humanitarian in nature and requires a knowledge base in nursing. The integration of scientific, humanistic, and nursing concepts and theories, attainable through research, gives direction to this practice. The nursing process is utilized with individuals and groups to maximize their potential for health. In its totality it includes assessment, diagnosis, planning, implementation, and evaluation, and is the essence of professional practice. The process of nursing is interpersonal and caring in nature.

The emerging role of the nurse involves a greater amount of independence in practice and an increasing accountability to the consumer of health and nursing care. This can be achieved through individualized care given on a continuous basis and over a period of time. The professional nurse will increasingly be viewed at the nucleus of the health care system, as well as an advocate for the consumer. Through leadership and interaction skills, the nurse will act in concert with the client as well as other health professionals for health promotion and maintenance.

The baccalaureate program in nursing prepares a self-directed graduate with a breadth of knowledge in nursing who functions as a generalist in a variety of health care settings. This graduate is capable of functioning as a leader and as an initiator of change in the care-giving situation; supporting change within the health care system; coordinating and collaborating with consumers and interdisciplinary health team members; and utilizing selected theories, concepts, and research findings. Experiences are provided to help students define their role and develop personal and professional values and beginning clinical competencies. This baccalaureate program provides the base for master's preparation in nursing.

Graduate nursing education, based upon the first professional degree, the Bachelor of Science in Nursing, prepares the graduate for the advanced application of theory to professional practice. As a practice profession, nursing is based on the utilization of theories to describe the unique relationships among persons and their health status. Advanced practitioners of nursing are prepared to use analytical skills in applying theories to practice for a variety of roles and functions in specialized settings. Inquiries emerge from professional nursing practice which in turn form the essence of nursing research. The master's program provides the base for doctoral study in nursing and continued professional development.

Learning is a dynamic, lifetime growth process of behavioral changes which involves the development of maximum potential through a spirit of inquiry and self-motivation. Learning is a sequential process and combines cognitive, affective, and psychomotor components. The learner has responsibility for independence, self-direction, and reaching a level of self-realization. The educator has responsibility for determining and implementing quality education which is accomplished through sharing, counseling, guiding, and challenging. The educator and learner in nursing must continually evolve a greater understanding of the relationships among theory, research, and practice. This understanding facilitates the development of nursing theory and practice, provides a climate conducive to intellectual pursuits, contributes productively toward the highest standards of teaching, and encourages independent thought and creative endeavors.
Characteristics of the Graduate

The characteristics of the graduate are stated as broad, descriptive objectives that focus on the philosophy's concepts of humanity, society, health, professional nursing, and learning. These objectives are viewed by the faculty as representative of a commitment to quality nursing care, to the student, and to the consumer of health care. These objectives also serve as essential guidelines to the faculty and students, especially in matters relating to the curriculum such as the development of level and course objectives. The graduate will:

1. Assess and diagnose the health status of individuals, families, groups, and communities; plan, implement, and evaluate nursing care in any setting.
2. Synthesize knowledge from concepts and/or theories within the humanities, sciences, and nursing for the practice of professional nursing.
3. Provide professional nursing care recognizing the uniqueness of clients in relation to their biological, psychological, social, and spiritual health status, life span development, and health potential.
4. Incorporate the interpersonal process to assist individuals, families, groups, and communities to maximize their potential for health.
5. Employ leadership theories to collaborate with the health care team for the coordination of client care.
6. Integrate ethical and legal aspects of practice with professional values in the delivery of health care.
7. Utilize nursing research to enhance the quality of nursing and health care within a practice setting.
8. Utilize the change process to improve health and nursing practice in a rapidly changing society.
9. Demonstrate responsibility for self-direction in lifelong learning by participating in activities that contribute to personal and professional growth.
The Wright State University Lake Campus became part of Wright State University in July 1969. Classes were held in downtown Celina until September 1972, when a new campus, located on the north shore of Grand Lake St. Marys between Celina and St. Marys, was opened. Dwyer Hall, the first building on the new campus, contains laboratories, classrooms, faculty and administrative offices, the library, an auditorium, and student service facilities.

Two new buildings were added in 1980. Andrews Hall contains an electronics engineering lab, secretarial and business labs, and the mechanical drafting design engineering technology lab. Trenary Lab houses the manufacturing engineering technology lab.

The 173-acre campus and its facilities are the result of a state appropriation and the contributions of many individuals and groups in the surrounding communities who sought to provide opportunities for youth and adults in the area to pursue university work of high quality at a reasonable cost. The location of the campus enables many students to obtain an associate degree or to earn approximately half their baccalaureate degree requirements without extensive commuting and to hold part-time jobs while in attendance. Students who do not plan to complete a degree program can further their education through selected courses of individual interest. Classes are scheduled during both day and evening hours.

The mission of the Wright State University Lake Campus is to offer postsecondary education within a reasonable commuting distance to interested students. Since its mission is to serve all types of students, the Lake Campus offers prebaccalaureate and two-year technical programs as well as other selected credit and noncredit courses as needed.

A wide selection of courses covering the first two years is available in the humanities, the social sciences, the sciences, mathematics, education, and business. Selected courses at the junior, senior, and graduate levels are offered based upon demand, library resources, and the availability of qualified faculty. Noncredit courses are offered to the community at a nominal charge when there is sufficient demand and available space.

The Wright State University Lake Campus has a highly qualified resident faculty of sufficient size to provide instructors for nearly all courses offered. Academic advising and counseling services are available at the Lake Campus.

The WSU Lake Campus has its own student government which initiates, supports, and supervises extracurricular activities. The student government helps sponsor the College Community Arts Program which brings to the campus outstanding musical, dramatic, lecture, and film
presentations. The athletic teams compete against other branch campuses and technical colleges in Ohio and community colleges in Indiana.

**Associate of Arts Degree**

The Wright State University Lake Campus offers a two-year Associate of Arts degree program that introduces students to the major disciplines of the humanities, the natural and social sciences, and mathematics. The program includes the university’s General Education requirements. There is sufficient flexibility to permit students to tailor their programs to provide the background required for baccalaureate degree programs at Wright State University or for transfer to another college or university. Area concentrations are available in the humanities and social sciences, business and administration, and several areas of specialization in the sciences. Specific requirements for the Associate of Arts program are available from the Lake Campus office.

Humanities and social science electives are to be chosen from the approved list of courses that fulfill General Education requirements.

**Associate of Arts degrees are offered in the following areas:**

- Biological Sciences
- Business and Administration
- Chemistry
- Communication
- Economics
- English
- Geography
- Geological Sciences
- History
- Psychology
- Social Work
- Sociology

See the Lake Campus catalog for specific courses required in each area.

**Technical Programs**

Two-year technical education programs leading to the Associate of Applied Business or Associate of Applied Science degrees are offered at the Wright State University Lake Campus. Graduates of the technology programs will be qualified to work in industry, business, or service organizations. Specialized courses in real estate, banking, and insurance are available.

Humanities and social science electives are to be chosen from the approved list of courses that fulfill General Education requirements.

**Admission**

Students seeking admission to technical programs offered at the Wright State University Lake Campus are not required to meet Wright State University main campus admission requirements. However, it is highly recommended that students take college preparatory courses in high school.

**Associate of Applied Business degrees are offered in the following areas:**

- Accounting Technology
- Business Management Technology/Management Option
- Business Management Technology/Retail Marketing Option
- Data Processing Technology
- Secretarial Technology
  - Executive Secretarial Option
  - Legal Secretarial Option
  - Medical Secretarial Option
  - Word Processing Option

**Associate of Applied Science degrees are offered in the following areas:**

- Electronics Engineering Technology
- Manufacturing Engineering Technology
- Mechanical Drafting/Design Engineering Technology

An associate degree in law enforcement technology is offered in a cooperative program with Lima Technical College. See the Lake Campus catalog for specific course requirements in each area.
Course Descriptions
A list of course abbreviations and an explanation of the course numbering system can be found on pages 5 and 6. 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**

**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. (Previously listed as ACC 231.)

**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.

**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 nonmajors 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; 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 to other areas including distribution, research, and development costs. Prerequisite: ACC 321.

**328-3 Accounting Systems I**
Fundamental concepts of information, communication, and systems which form the framework for the design of data processing and accounting systems. Prerequisite: ACC 321 and MIS 300 or MIS 322. (Previously listed as ACC 411.)

**407-3 Financial Accounting IV**
Comprehensive study of partnerships and consolidated financial statements. Accounting for branch and foreign operations. 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 conduct of 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. (Previously listed as ACC 331.)

**442-3 Income Tax Accounting II**
Corporate, partnership, estate, gift, social security, and other federal taxes. Prerequisite: ACC 441. (Previously listed as ACC 332.)

**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.

**477-1 to 3 Special Studies in Accounting**

**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. Course requires semimonthly seminars and reports.

**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 322, 421.
Aerospace Science/AES

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 early development of air power until World War II. Studies center around the development of various concepts of air power employment and on factors which 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 which 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 which 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.

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.

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.

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.

Anatomy/ANT

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.

351-3 Fossil Evidence for Human Evolution
(Listed jointly with Department of Anthropology; see ATH 351.) History, description, and interpretation of the fossil record for primate evolution with an emphasis on human evolution. Prerequisite: ATH 240, 241, 242, or permission of instructor.

392-2 Fundamentals of Neurobiology Lab
Development, structure (gross and microscopic), and functional relationships of the mammalian nervous system including aspects of neuroendocrinology, neurochemistry, and comparative neurology.

488-1 Independent Reading
164 Courses/Anatomy

491-4 Fundamentals of Human Neurobiology
Development, structure, and function of the human nervous system as it relates to neuropathology, clinical neurology, and behavioral science.

499-1 to 5 Selected Topics in Anatomy
May be taken for letter grade or pass/unsatisfactory.

Anthropology/ATH

200-3 World of Primitive Contemporaries
Survey of the world's nonwestern cultures. Discussions include the various ways contemporary peoples live and the relationship between primitive and contemporary cultures.

240-3 Introduction to Cultural and Social Anthropology
Surveys various fields or subdisciplines of anthropology to enable anthropology majors to complete upper division courses effectively. Emphasis on identifying cultural symbols and social interaction in ethnic groups. (Previously listed as ATH 140.)

241-3 Introduction to Physical Anthropology
The physical and biological nature of humans including primate behavior, evolution, genetics, and human variability. (Previously listed as ATH 141.)

242-3 Introduction to Archaeology
Introduction to the nature of archaeological data, techniques of archaeological dating, and methods of data collection, analysis, and interpretation. (Previously listed as ATH 142.)

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.

343-4 Indians of South America
Descriptive survey of South American Indian societies with special emphasis on their ecological adaptations and their attempts to survive in the twentieth century.

344-4 Latin American Peasant Society and Culture
Study of peasant society and culture in central and highland South America, with emphasis on economic strategies, social organization, worldview, and adaptation to change.

346-4 Anthropology of Religion
(Listed jointly with Department of Religion; see REL 360.) Anthropological approach to meaning and function of religion in social life, and nature of thought or belief systems that give rise to different forms of religious life. Emphasis on primitive and peasant societies.

349-4 Anthropological Linguistics
The science of language as an anthropologist's tool for field research. How to describe language as sound and write an unwritten language; how the anthropologist can make use of linguistic training for acquiring cultural data.

351-4 Fossil Evidence for Human Evolution
(Listed jointly with Department of Anatomy; see ANT 351.) 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 (monkeys and apes) as it relates to human evolution and behavior.

358-4 Human Variation and Adaptation
Examination of biological variation in human populations focusing on interpopulation variation, adaptation, and the concept of race.

363-4 Ancient Mexico: Olmecs, Maya, and Aztecs
Detailed examination of the major cultures and traditions of prehistoric Mexico and Guatemala with emphasis on the Olmec, Maya, Toltec, and Aztec civilizations.

364-4 Ancient Peru: The Inca and Their Predecessors
Detailed examination of the major prehistoric cultures and traditions of the Andes with emphasis on the Incan civilization and its predecessors.

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.

392-2 to 4 Readings in Anthropology
May be taken for letter grade or pass/unsatisfactory.

396-2 Careers for Anthropology Majors
Combination workshop and field study in which students learn how to prepare a resume, how to find out about career possibilities, and how to meet people who are active practitioners. Prerequisite: COM 304.

399-1 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.

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 special 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**  
(Listed jointly with Department of Political Science and Urban Affairs; see PLS 450.) Study of that part of the culture of primitive societies which 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.

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.

492-2 to 4 **Independent Research in Anthropology**  
May be taken for letter grade or pass/unsatisfactory.

**Art and Art History/ART**  
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 which focuses 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 **Fundamentals of Drawing**  
Introduction to materials, techniques, and concepts of drawing.

207-4 **Introduction to Photography**  
Exploration of 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 **Fundamentals of Sculpture**  
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**  
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**  
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**  
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**  
Introduction to the visual arts which focuses on selected major works of art throughout history. Discusses comparisons across time, basic art media, and the formal characteristics of art.

219-4 **Studies in the History of Architecture**  
Development of architecture in terms of formal qualities, materials, techniques, and function from ancient to modern times.

228-4 **Beginning Drawing**  
Introduces concepts and techniques of drawing. May include studies from the human figure and other natural forms. Topics vary. Prerequisite: ART 206.

258-4 **Beginning Black-and-White Photography**  
Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from students' work. Prerequisite: ART 207 or permission of instructor.

259-4 **Beginning Color Photography**  
Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from students' work. Topics vary. Prerequisite: ART 207 or permission of instructor.

278-4 **Beginning Sculpture**  
Introduction to fundamentals of sculpture emphasizing basic processes and materials. Titles vary. Prerequisite: ART 208.

287-4 **Beginning Visual Communication**  
Introduction and orientation to the visual communication disciplines (graphic design, art direction, and illustration), historically and currently. Prerequisite or corequisite: ART 206 or permission of instructor.
166 Courses/Art and Art History

288-4 Beginning Visual Communication
Development of drawing skills using tools, materials, and processes of the professional designer. Prerequisite: ART 206, 287, or permission of instructor.

289-4 Beginning Visual Communication
Development of production skills and techniques for the preparation of material for reproduction. Prerequisite: ART 288 or permission of instructor.

297-4, 298-4, 299-4 Museology and Gallery Management
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 213 or permission of instructor.

300-1 to 4 Studio Workshop
Studio experience directly involving students with a professional artist executing a special project. Covers a range of information from preliminary planning to final discussion on the project.

301-1 to 4, 302-1 to 4, 303-1 to 4 Independent Study in Art
Special studies and intensive individual work with faculty supervision in art.

309-4 Studies in Art Theory and Philosophy
Courses offered under this number provide both historical surveys and intensive studies in art theory and philosophy. Prerequisite: ART 213 or permission of instructor.

327-4, 328-4, 329-4 Intermediate Drawing
Development of personal concepts and aesthetic expression in drawing. Emphasis on individualized approach to drawing problems that arise from the work of students. Topics vary.

337-4 Beginning Expanded Media
Study of visual and aesthetic techniques and concepts emphasizing development of the individual artistic expression in various media. Prerequisite: ART 228, 258, 278 or permission of instructor.

347-4 Beginning Painting
Working from still, figure, and landscape emphasizing the use of color and drawing in visual organization. Prerequisite: ART 206, 209, 228.

348-4, 349-4 Intermediate Painting
Emphasis on principles of pictorial organization. Attention to the relationship of subject matter and abstraction as related to contemporary and traditional approaches. Prerequisite: for 348, ART 347 or permission of instructor; for 349, ART 348 or permission of instructor.

357-4, 358-4 Intermediate Black-and-White 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: for 357 and 358, ART 258 or permission of instructor.

359-4 Intermediate 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 259 or permission of instructor.

367-4 Beginning Printmaking—Intaglio
Exploration of printmaking, stressing intaglio methods: etching, engraving, drypoint, aquatint, and liftgrounds. 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.

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by students. Titles vary. Prerequisite: ART 278 or permission of instructor.

387-4 Intermediate Visual Communication
Introduction to design elements and principles used in visual organization of material. Prerequisite: ART 209, 289, or permission of instructor.

388-4 Intermediate Visual Communication
Development of understanding and use of typography, typesetting procedures, and techniques. Prerequisite: ART 387 or permission of instructor.

389-4 Intermediate Visual Communication
Creation of images using cultural forms in the solution of visual communication problems using drawing, photography, and graphic techniques. Prerequisite: ART 207, 388, or permission of instructor.
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, 402-1 to 4, 403-1 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 cross-period 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 history and includes cross-media 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
(Listed jointly with Department of Classics; see 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 211 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 211 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 212 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 213 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 213 or permission of instructor.

417-4 Studies in Nonwestern Art
General surveys and intensive studies of periods, major movements, and artists in nonwestern art. Prerequisite: ART 211 or permission of instructor.

427-4, 428-4, 429-4 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 329 or permission of instructor.

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 adviser.

447-4, 448-4, 449-4 Advanced Painting
Continued emphasis on pictorial organization with increased attention to the personal imagery of students. Prerequisite: ART 349 or permission of instructor.

457-4, 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.

477-4, 478-4, 479-4 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 379 or permission of instructor.
Courses / Art and Art History

487-4 Advanced Visual Communication
Advanced problems in visual communication involving application of design principles and problem-solving techniques to single-surface media: posters, ads, and book covers. Prerequisite: ART 389 or permission of instructor.

488-4 Advanced Visual Communication
Advanced problems in visual communication involving application of design principles and problem-solving techniques to multiple-surface media: books, magazines, displays, film, and video. Prerequisite: ART 487, or permission of departmental adviser.

489-4 Advanced Visual Communication
Advanced problems in visual communication involving application of design principles and problem-solving techniques to systems of visual communication. Prerequisite: ART 488 or permission of instructor.

497-4 Advanced Museology and Gallery Management
Supervised independent field experience and practical work in all areas of art museum management in the university and greater Dayton area communities. Prerequisite: ART 299.

Art Education / AED

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.

223-3 Crafts for Teachers
Creative problems in paper, wood, clay, fibers, and metal for the elementary grades. For elementary education majors only.

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, decoration, and 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.

226-3 Modeling
Introductory work in construction of three-dimensional forms; sculptural potentials of clay and other plastic materials. Emphasizes modeling techniques for public school art programs.

324-4 Enameling I
Introduction to basic methods and processes of application and fusing of 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 application and fusing of 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.

411-4 Design: Process and Material
Advanced course in two- and three-dimensional design problems involving a wide range of techniques and materials related to teaching. Personal involvement in experimental approaches related to course problems. Prerequisite: AED 214 or equivalent.

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 silk-screen 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. Prerequisite 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.

438-4 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 327.

440-1 to 3 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.

441-4 Art Appreciation and Criticism in the Schools
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.

442-4 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.

443-4 Architectural and Environmental Awareness
Combination seminar and studio focusing on curriculum development for the public school in architectural space and environmental awareness. Emphasis on human behavior and resources, ecology and human needs, and aesthetics and history.

Art Therapy/AT
370-1 to 3 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.

420-3 Media in Art Therapy
Experience with a variety of media appropriate to the clinical setting. Appropriate art media for remediation, adaptation, and expression included with discussion of application procedures.

429-1 to 6 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.

444-3 Art and the Special Student
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.

Aviation/AVI
101-4 Private Ground Instruction
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.

102-4 Flight Instruction
Thirty-five hours of flight training and related lectures including primary flight maneuvers and cross-country flying. Meets requirements for private pilot's certificate. Students required to have passed FAA written examination.

Biological Chemistry/BCH
150-3 Introduction to Nutrition
Study of the nutrients, their functions, and factors determining nutrient availability. Prerequisite: BIO 111, 112, or 113, or equivalent.
Courses/Biological Chemistry

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210-4 Introduction to General Principles of Biochemistry especially for students interested in the health sciences. Topics include the chemistry of biological molecules, cellular metabolism, and mode of action of selected chemicals at the biochemical level. Prerequisite: CHM 102 or 141.

240-3 Drugs and Society
An overview of drugs that primarily affect mood, behavior, and perception and are subject to abuse. Drugs are discussed in their cultural, historical, and pharmacological perspectives. Prerequisite: BIO 113.

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 112, 113 or 114; or equivalent.

401-1 to 4 Topics in Biological Chemistry

421-4.5 Biochemistry I
Chemistry of biological compounds and introduction to enzymes.

422-3 Laboratory for Biochemistry I
Quantitative techniques in biochemistry, and chemical and instrumental methodology. Corequisite: BCH 421 (may be taken separately with permission of instructor).

423-4.5 Biochemistry II
Intermediary metabolism of carbohydrates, proteins, nucleic acids, and lipids. Prerequisite: BCH 421.

424-3 Laboratory for Biochemistry II
Properties of enzymes, enzyme catalyzed reactions, and application of isotopes to the study of metabolism. Corequisite: BCH 423 (may be taken separately with permission of instructor).

427-4.5 Biochemistry III
Metabolism of hormones and amino acids, integration of metabolism, and aspects of human biochemistry including some metabolic disorders and nutrition. Prerequisite: BCH 423.

431-4.5 Clinical Biochemistry
Application of biochemical knowledge to a thorough understanding of disease states. Builds on material presented in BCH 421 and 423.

432-3 Plant Biochemistry
(Listed jointly with Department of Biological Sciences; see BIO 432.) Detailed study of biochemistry of photosynthesis, respiration, and other metabolic and biosynthetic processes in plants. Prerequisite: BCH 421, 423.

433-2 Laboratory for Plant Biochemistry
(Listed jointly with Department of Biological Sciences; see BIO 433.) Experiments follow the subject matter sequence of BCH 432. Corequisite: BCH 432.

451-3 Recent Developments in Biochemistry
Detailed consideration of major research developments in biochemistry within the past several months. Discussion deals not only with the appropriate research papers, but also with the background information left out of such articles. Prerequisite: BCH 421, 423.

488-1 Independent Reading

499-1 to 4 Special Problems in Biological Chemistry

Biological Sciences/BIO

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 which 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.

Sequence substitutions: BIO 111, 112, and 113 or 114. Honors students may substitute UH 203 for BIO 107.

Departmental 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 which 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.
111-4 Principles of Biology: Ecology
Introduction to basic concepts of biology. Topics include environment, ecology, and the diversity of life.

112-4 Principles of Biology: Genetics and Evolution
Introduction to basic concepts of biology. Topics include genetics, evolution, and the molecular and cellular basis for the unity of life. Prerequisite: for majors, BIO 111, CHM 101 or 121; for nonmajors, BIO 111.

113-4 The Human as an Organism
Introduction to biology at the organismic and systematic levels with emphasis on the human body. Topics reflect contemporary interests and usually include the human as an evolved species, nutrition, disease, and reproduction. Prerequisite: BIO 111, 112.

114-4 Organismic Biology
Introduction to the structure and function of plants and animals. Prerequisite: BIO 111, 112.

119-1 Honors Recitation, Principles of Biology (111, 112, 114)
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

202-5 Microbiology
Study of morphology, cultivation, and biochemical activities of microorganisms. Survey of viruses, bacteria, blue-green algae, and fungi and their diversity in natural environments. 3 hours lecture, 4 hours lab. Prerequisite: BIO 111, 112, CHM 141.

203-5 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: BIO 111, 112, CHM 141.

204-5 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: BIO 111, 112.

205-5 Biology of the Invertebrates
Morphology, development, physiology, and evolutionary relationships of major invertebrate groups. 3 hours lecture, 6 hours lab. Prerequisite: BIO 111, 112.

206-5 Vertebrate Biology
Introduction to vertebrate animals, including adaptive morphology, comparative embryology, and evolutionary history. 2 hours lecture, 6 hours lab. Prerequisite: BIO 111, 112.

208-4.5 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.

209-4.5 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 208.

302-3 Genetics
The nature and function of genetic material and its role in quantitative, physiological, and population genetics of plants, animals, and humans. Prerequisite: BIO 111, 112; MTH 130; or permission of instructor.

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 which set plants apart from other organisms. Laboratory introduces independent research concerning plant nutrition and bud development. 3 hours lecture, 4 hours lab. Prerequisite: BIO 203 or 204; CHM 141.

305-3 Animal Physiology
Basic adaptive mechanisms and their coordination in the activities of the metazoa. Prerequisite: BIO 111, 112; BIO 205 or 206; CHM 141.

306-5 Ecology
Introduction to ecology; emphasis on the organism's interaction with the environment. 3 hours lecture, 4 hours lab. Prerequisite: for majors, completion of Area B requirement; for nonmajors, BIO 111, 112, permission of instructor.

307-5 Cell Biology
Elements of cell structure are studied with emphasis on functional correlations. Laboratory experiments demonstrate principles of isolation, fractionation, and purification of organelles; biochemical and physiological properties of cells and cell constituents; and metabolic interrelationships. 3 hours lecture, 6 hours lab. Prerequisite: BIO 111, 112; CHM 211, 212; PHY 111.
172 Courses/Biological Sciences

308-2 Animal Physiology Laboratory
Laboratory studies of basic adaptive mechanisms and their coordination in the activities of the metazoa. Prerequisite: BIO 111, 112, BIO 205 or 206, CHM 141. Prerequisite or corequisite: BIO 305.

312-2 Genetics Laboratory
Accompanying laboratory for BIO 302. Experiments and techniques in genetic research. Prerequisite: BIO 111, 112, MTH 130; or permission of instructor. Corequisite: BIO 302.

402-3 Molecular Biology
The molecular basis of the living state with emphasis on macromolecular structure and function and the molecular mechanisms for the transmission and expression of genetic information. Prerequisite: CHM 213.

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: BIO 111, 112, CHM 141.

405-3 Molecular Biology Laboratory

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.

301-5 Physiology and Health
Basic structure and function of the human body; consideration of health, disease, and abnormalities. 3 hours lecture, 2 hours lab, 1 hour recitation. Prerequisite: BIO 111, 112, 114; or permission of instructor.

315-3 Introduction to the History of Biology
Overview of the antecedents of modern biological thought.

350-3 Biology of Economic Plants
Study of economically important algae, fungi, lichens, bryophytes, and vascular plants as related to humans. Emphasis on plants that are food sources, involved in industrial processes, and which affect human cultural and social development. Prerequisite: BIO 114.

351-1 Biology of Economic Plants Laboratory
Direct observation of plants as an economic commodity. Emphasizes the survey approach to economically important plant groups. Corequisite: BIO 350.

361-3 Environmental Health Field and Laboratory Practice I
Field and laboratory technology used in monitoring the environment and evaluating the effectiveness of environmental control operations. Emphasis on water quality control and waste disposal methods. For environmental health majors only. Corequisite: EH 360.

363-3 Environmental Health Field and Laboratory Practice II
Field and laboratory technology used in monitoring the environment and evaluating the effectiveness of environmental control operations. Emphasis on food sanitation, solid waste, and institutional sanitation. Corequisite: EH 362.

365-3 Environmental Health Field and Laboratory Practice III
Field and laboratory technology used in monitoring the environment and evaluating the effectiveness of environmental control operations. Emphasis on housing and recreation sanitation. Corequisite: EH 364.

375-3 The Biology of Human Sex
Human reproductive physiology, including family planning, fertility, and introduction to human development. Introduction to physiologic, genetic, and anatomic sexual dysfunction. Completion of introductory biology required.

401-1 to 3 Topics in Modern Biology
Advanced topics in modern biology of current interest. Topics vary.

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 307.

406-3 Evolutionary Biology
Historical development and current understanding of the principles of evolution. Prerequisite: BIO 111, 112, 114, 302; or permission of instructor.

411-6 The Aquatic Environment
Introduction to limnology. Field and laboratory course concerned with physical, chemical, and biological factors that characterize natural waters.

412-6 Aquatic Communities
Analysis of the functional relationships of organisms with the aquatic environment; emphasis on species interactions.

413-5 Biological Problems of Water Pollution
Introduction to biological aspects of water pollution. Lectures, discussions, laboratories, and field trips on various aspects of pollutants and their impact on aquatic life.
414-5 Terrestrial Communities
The organization, diversity, distribution, and abundance of animals in plant communities, with emphasis on terrestrial insect-plant relationships. Laboratories and field trips acquaint students with various techniques used for ecological studies of population and community dynamics in natural environments. Prerequisite: BIO 306 or equivalent.

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.

416-3 Principles of Ecotoxicology
Various types of ecotoxicants and their impact on aquatic and terrestrial organisms. Emphasis on types and sources of toxicants: their uptake, accumulation, excretion, and biological effect. Completion of a course in physiology and in organic chemistry required.

417-4 Evolution
(Listed jointly with Department of Religion; see REL 417) Introduction to biological, philosophical, theological, and ethical aspects of the concept of evolution.

418-4 Methods in Environmental Toxicology
Methods used to study toxic effects of chemical and physical agents on living organisms. Emphasis on those which affect populations and communities within natural ecosystems, but can be used to indicate potential toxicity for humans. Prerequisite: BIO 415 (615) or 416 (616); or PHA 751.

419-3 Modern Methods in the Molecular Biology of Nucleic Acids
Examines modern laboratory techniques used to investigate nucleic acids. Lectures outline principles of techniques plus actual laboratory experience using the techniques. Electrophoresis, spectrophotometry, use of restriction enzymes. Prerequisite: BIO 202; BIO 402 or BCH 421.

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.

422-1 Ethics in Genetic Counseling
Emphasizes ethical problems confronted by those that give genetic counseling. Problems in screening, amniocentesis, and genetic manipulation are also considered. Prerequisite: BIO 105 or 112 or 302; or equivalent, or permission of instructor. Corequisite: REL 378.

425-5 Microbial Ecology
Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and environments. Includes field studies.

426-4 Human Genetics
Nature of human genetic traits, methods of analysis of inheritance. Prerequisite: BIO 302, 402.

428-3 Biology of Slime Molds
Includes primarily the protosteliales, acrasiales, and myxomycetes. For each group, the life cycle, the ultrastructure and gross morphology of developmental stages, and the natural relationships and taxonomy are discussed and demonstrated. Prerequisite: BIO 111, 112, 202.

430-3 Radiation Biology
Introduction to the nature of ionizing radiation, its biological effects, and its applications to biological problems. Prerequisite: BIO 403, CHM 213, MTH 131, PHY 113.

432-3 Plant Biochemistry
(Listed jointly with Department of Biological Chemistry; see BCH 432.) Detailed study of the other metabolic and biosynthetic processes in biochemistry of photosynthesis, respiration, and plants. Prerequisite: BCH 421, 423.

433-2 Laboratory for Plant Biochemistry
(Listed jointly with Department of Biological Chemistry; see BCH 433.) Experiments follow the subject matter sequence of BIO 432. Corequisite: BIO 432.

434-3 Introduction to Clinical Laboratory Science
(Listed jointly with Medical Technology; see MT 434.) Introduction to procedures and techniques related to clinical laboratory function. Completion of preprofessional medical technology curriculum required.

435-2 Advanced Clinical Laboratory Science
(Listed jointly with Medical Technology; see MT 435.) Study of advanced methodology and instrumentation, which may include computer applications, data management, research data collection, and statistical analysis. Completion of preprofessional medical technology curriculum required.

436-5 Diagnostic Microbiology
(Listed jointly with Medical Technology; see MT 436.) Application of microbiological principles to diagnosis, infection, and resistance. Completion of preprofessional medical technology curriculum required.
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437-5 Methods of Diagnostic Microbiology
(Listed jointly with Medical Technology; see MT 437.) Laboratory experiments in diagnostic microbiology. Corequisite: BIO 436.

438-5 Clinical Chemistry
(Listed jointly with Medical Technology; see MT 438.) Application of principles of biochemistry to the human in health and disease. Completion of preprofessional medical technology curriculum required.

439-5 Clinical Laboratory: Biochemistry
(Listed jointly with Medical Technology; see MT 439.) Laboratory course using current clinical chemistry techniques for the analysis of human tissues and fluids. Corequisite: BIO 438.

440-4 Body Fluid Analysis
(Listed jointly with Medical Technology; see MT 440.) Study of body fluids covering the pathophysiology of their formation and nature as well as the techniques of examination for diagnostic information. Completion of preprofessional medical technology curriculum required.

442-4 Hematology
(Listed jointly with Medical Technology; see MT 442.) Study of hematopoiesis, blood cell cytology, and clotting mechanisms of human blood. Completion of preprofessional medical technology curriculum required.

443-4 Hematology Laboratory
(Listed jointly with Medical Technology; see MT 443.) Laboratory study of cellular elements of blood and hemostasis. Corequisite: BIO 442.

444-3 Immunohematology
(Listed jointly with Medical Technology; see MT 444.) Immunology and genetics of human blood groups and types. Completion of preprofessional medical technology curriculum required.

445-3 Immunohematology Laboratory
(Listed jointly with Medical Technology; see MT 445.) Study of immunology as applied to human blood isoantigens and isoantibodies. Corequisite: BIO 444.

446-2 Immunology
(Listed jointly with Medical Technology; see MT 446.) Study of antigens and antibodies with emphasis on in vivo and in vitro reactions. Completion of preprofessional medical technology curriculum required.

447-3 Laboratory Immunology: Serology
(Listed jointly with Medical Technology; see MT 447.) Study of detection and measurement of antigens or antibodies using in vitro systems.

448-2 Clinical Pathology Correlation
(Listed jointly with Medical Technology; see MT 448.) Correlation of clinical laboratory findings with different human physiological states. Completion of preprofessional medical technology curriculum and departmental approval required.

449-2 Clinical Pathology Seminar
(Listed jointly with Medical Technology; see MT 449.) Presentation and discussion of topics in clinical laboratory medicine. Completion of preprofessional medical technology curriculum and departmental approval required.

452-3 Advanced Genetics
Basic concepts of genetic control of form, function, and change in biological systems; emphasis on microbial, developmental, and biochemical genetics. Prerequisite: BIO 302, 402, or permission of instructor.

453-3 Advanced Genetics Laboratory
Illustrates some aspects of microbial, biochemical, and developmental genetics. Prerequisite or corequisite: BIO 452.

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 202, 302; BIO 402; BCH 421 or 423; or permission of instructor.

455-3 Plant Systematics
Survey of topics and techniques encountered in studies of relationships and evolution of the higher plants, emphasizing the flowering plants. Prerequisite: BIO 204.

456-3 Microbial Genetics Laboratory
Familiarizes students with microbial genetics techniques. Corequisite: BIO 454.

457-3 Microbial Physiology
Study of the physiological and biochemical processes associated with microbial growth, development, and metabolism. Prerequisite: BIO 202, 402 or permission of instructor.

458-3 Microbial Physiology Laboratory
Laboratory study of the physiology and biochemistry of microbial growth, development, and metabolism. Prerequisite: BIO 202. Corequisite: BIO 457.

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.

465-3 Ecological Genetics
Concerned with the experimental study of evolution and adaptation that has been carried out by means of combined field work and laboratory genetics. Prerequisite: BIO 302, 306.

470-3 General Entomology
Basic study of morphology, physiology, habits, and classification of insects including discussion of pesticide toxicology and insect management.

471-2 General Entomology Laboratory
Introduction to insect morphology, physiology, identification, and toxicology. Student collection and field trips required. Corequisite: BIO 470.
Biology of Selected Marine Environments
Biological aspects of marine environments. Sampling and observation of living marine specimens during weeklong trip to marine laboratory.

Ecological Physiology of Aquatic Animals
Physical and chemical adjustment, tolerance, and acclimation of organisms to aquatic habitat. 3 hours lecture, 6 hours lab.

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 lab course in general microbiology required. Prerequisite: BIO 202 or M&L 220. Corequisite: BIO 464.

Human Parasitology
Study of aspects of parasitology including biology, epidemiology, diagnosis, and identification of parasites. Divided into three major categories: protozoology, helminthology, and arthropodology.

Human Parasitology Laboratory
Examination and identification of protozoan, helminthic, and arthropod parasites of humans. Corequisite: BIO 476.

Animal Behavior
(Listed jointly with Department of Psychology; see PSY 478.) Physiology, phylogeny, and ontogeny of behavior. 3 hours lecture, 2 hours lab. Prerequisite: BIO 111, 112, and 113 or 114; or BIO 105, 106, 107; or PSY 111, 112, 300.

Biology of Fishes
Introduction to the evolution, ecology, and distribution of freshwater and marine fishes. 3 hours lecture, 4 hours lab. Prerequisite: BIO 206, 306 or permission of instructor.

Introduction to Biogeography
(Listed jointly with Department of Geography; see GEO 484.) Introduction to the factors affecting the distribution of plants and animals. Prerequisite: BIO 111, 112, 306 or permission of instructor.

Independent Reading
Graded pass/unsatisfactory.

Senior Honors Research

Special Problems in Biology

Biomedical Engineering/BME

Engineering Psychology
(Listed jointly with Department of Psychology; see PSY 306.) Introduction to the study of human factors in the design and operation of machine systems. Prerequisite: PSY 111, 112. (Previously listed as EGR 306.)

Biomedical Engineering Systems I
Application of engineering and mathematical techniques in the derivation of the basic laws underlying biophysical systems. Topics include transport theory and electrical properties of cell membranes; control theory applied to regulation of body functions. Prerequisite: MSE 213, MTH 233. (Previously listed as EGR 419.)

Biomedical Engineering Systems II
Application of the mechanics of fluids and solids together with thermodynamic principles in formulating the basic equations governing cardiovascular and pulmonary functions. Topics include rheology, hemodynamics, lung aerodynamics, cardiac mechanics, and system interactions. Prerequisite: BME 419. (Previously listed as EGR 420.)

Engineering Biophysics
Application of mathematical and engineering techniques toward describing biophysical systems. Topics include cellular transport, electrical properties of membranes, and regulation of blood pressure and body temperature. Prerequisite: ESE 321, P&B 302. (Previously listed as EGR 422.)

Biomechanics and Biofluids
Application of solid and fluid mechanics and thermodynamics toward describing physiological systems. Topics include muscle contraction, cardiac mechanics, hemodynamics, and whole body heat transfer. Prerequisite: ESE 322. (Previously listed as EGR 428.)

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. (Previously listed as EGR 439.)

Biotransport and Artificial Organs II
Advanced topics in transport processes essential to the design of medical devices that support living systems. Topics include the human thermal system and heat transfer, hemodialysis, mass transport of renal and hepatic systems. Prerequisite: BME 439. (Previously listed as EGR 440.)

Design and Analysis of Engineering Experiments
Introduction to planning and analysis of engineering experiments. Covers basic topics required for experimental work and their applications to engineering problems. Brief coverage of basic statistics, probability distributions, tests of hypotheses, linear regression and analysis of variance, and the application of these tools using randomized block, factorial, and fractional factorial experimental design in investigation of engineering problems. (Previously listed as EGR 460.)
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461-4 Bioinstrumentation I
Principles of design and analysis of electronic instrumentation for biological applications. Topics include transducers, electrodes, signal processors, image processing, and electrical safety. 3 hours lecture, 2 hours lab. Prerequisite: ESE 441. (Previously listed as EGR 461.)

462-4 Bioinstrumentation II
Continuation of principles of design and analysis of electronic instrumentation for biological applications. Topics include transducers, electrodes, signal processors, image processing, and electrical safety. Prerequisite: BME 461. (Previously listed as EGR 462.)

463-3 Biomedical Computers I
Digital computer applications in medical sciences involving medical research, patient care, and physician assistance. Topics include medical data cases, medical expert systems, and data structures for patient care. Prerequisite: EGR 153, ESE 441 or permission of instructor. (Previously listed as EGR 463.)

464-4 Biomedical Computers II
Digital computer (hardware) applications in the health care field. Topics include hospital operating room computer systems, microprocessors in clinical and medical research laboratories, and computers in rehabilitation engineering. Prerequisite: BME 463 or permission of instructor. (Previously listed as EGR 464.)

465-3 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: PHY 242. (Previously listed as EGR 465.)

471-4 Systems Models in Human Factors Engineering
Study of quantitative means of analyzing and predicting human performance, particularly for human/machine interactions. Topics include estimation theory, control theory, queuing theory, and fuzzy set theory. Prerequisite: ESE 425, PSY 400 or STT 363. Corequisite: ESE 426. (Previously listed as EGR 471.)

472-3 Human Factors Engineering Design
Study of current research reports in human factors engineering. Reports studied are selected from recent journals to be representative of work requiring engineering analysis and design as well as psychological experimentation and statistical analysis. (Previously listed as EGR 472.)

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: BME 471.

472-4 Biomedical Engineering Design
Individualized design projects allowing students to make use of design and analytical skills. (Previously listed as EGR 493.)

499-1 to 5 Special Problems in Engineering
Special problems in advanced engineering topics. Topics vary.

Chemistry/CHM

General Education Courses
105-4 Chemistry of Our World: Living Things
Examination of the principles of covalent bonding and 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 105; or CHM 101.

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 106; or CHM 101.

Sequence substitutions: CHM 121, 122, and 141 or CHM 101 or 102 and BCH 250 and 340. Honors students may substitute UH 203 for CHM 107.

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 and 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 105; or CHM 101.

107-4 Chemistry of Our World: Energy and the Environment
Examination of gaseous and liquid states and thermodynamics 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 106; or CHM 101.

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: CHM 101, MTH 127; or equivalent.

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.

141-5 Quantitative Chemistry
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 127.

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 141; 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 141. 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.

301-3 Philosophy of Chemistry
Chemistry from a philosophical and humanistic viewpoint.

311-7.5 Qualitative Organic Analysis
Systematic classification and identification of organic compounds by chemical and instrumental methods. 3 hours lecture, 9 hours lab. Prerequisite: CHM 213, 217.

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 141. Corequisite: CHM 314.

313-3 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 315.

314-4.5 Quantitative Analysis Laboratory
Experimental methods of analysis. Practical applications of lecture material presented in CHM 312. Prerequisite: CHM 141. Corequisite: CHM 312.

315-4.5 Instrumental Analysis Laboratory
Introduction to experimental instrumental analysis. Practical experience in the operation of chemical instrumentation; emphasizes applications of material presented in CHM 313. Prerequisite: CHM 312, 452. Corequisite: CHM 313.

319-1 Chemical Literature
Introduction to chemical literature in journals, handbooks, abstracts, monographs, and patents. Literature searches required in a variety of chemical areas. Prerequisite: CHM 212, 451.

361-4 The Organic Chemistry of Engineering Materials
The 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 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 corequisite CHM 414.
411-3.5 Environmental Chemistry II: Water
Study of 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 corequisite CHM 415.

412-3.5 Environmental Chemistry III: Solids
Survey of problems of solid wastes, pesticides, food additives, and radioactive materials, including their chemical composition, effects, detection, disposal, and natural breakdown. 3 hours lecture, 1 hour lab or field project. Prerequisite: CHM 213, 312, or corequisite CHM 416.

414-1 Directed Study in Prerequisite Material for Environmental Chemistry I
Survey of topics in organic and analytical chemistry for students in CHM 410 who do not have previous knowledge of organic or analytical chemistry. Structure and reactions of selected compounds and principles of some analytical techniques briefly covered the week prior to their inclusion in Environmental Chemistry I. Not open to students with credit for CHM 213 and 312, or equivalent. Prerequisite: CHM 122. Corequisite: CHM 410.

415-1 Directed Study in Prerequisite Material for Environmental Chemistry II
Survey of topics in organic and analytical chemistry for students in CHM 411 who do not have previous knowledge of organic or analytical chemistry. Structure and reactions of selected compounds and principles of some analytical techniques briefly covered the week prior to their inclusion in Environmental Chemistry II. Not open to students with credit for CHM 213 and 312, or equivalent. Prerequisite: CHM 122. Corequisite: CHM 411.

416-1 Directed Study in Prerequisite Material for Environmental Chemistry III
Survey of topics in organic and analytical chemistry for students in CHM 412 who do not have previous knowledge of organic or analytical chemistry. Structure and reactions of selected compounds and principles of some analytical techniques briefly covered the week prior to their inclusion in Environmental Chemistry III. Not open to students with credit for CHM 213 and 312, or equivalent. Prerequisite: CHM 122. Corequisite: CHM 412.

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.

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 which 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.

446-3, 447-3 Clinical Chemistry I, II
Study of the basic principles of the chemistry of blood and urine. Analytical procedures and clinical significance of various test procedures are discussed with regard to aiding diagnosis of disease states. Prerequisite: CHM 213, 312.

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 141, MTH 231, PHY 242 or permission of instructor.

456-4 Physical Chemistry for Nonchemists
Introduction for nonchemistry majors to the ideas of physical chemistry, including thermodynamics, properties of liquids and solids, solution properties, and kinetics. For nonmajors only.

457-2 Physical Chemistry Laboratory I
Experimental methods of physical chemistry. Corequisite: CHM 452.

459-2 Physical Chemistry Laboratory II
Experimental methods of physical chemistry. Corequisite: CHM 453.

465-3 Introduction to Polymer Science I
Introduction to the structural and physical aspects of macromolecules; emphasis on the relationship of polymer structure to physical and mechanical properties. Prerequisite: CHM 213 or 361. Corequisite: CHM 467.

466-3 Introduction to Polymer Science II
Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers. Prerequisite: CHM 213 or 361. Corequisite: CHM 468.

467-1 to 2 Introduction to Polymer Science Laboratory I
Laboratory illustrations of CHM 465 lecture material and techniques of polymer science. Corequisite: CHM 465.

468-1 to 2 Introduction to Polymer Science Laboratory II
Laboratory illustrations of CHM 466 lecture material and techniques of polymer science. Corequisite: CHM 466.
469-4 Engineering Plastics: Materials, Processes, and Design
(Listed jointly with Department of Mechanical Systems Engineering; see MSE 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
(Listed jointly with Department of Mechanical Systems Engineering; see MSE 479.) Survey of principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included. Prerequisite: MSE 315, 370; or corequisite CHM 453; or permission of instructor.

488-1 to 3 Independent Reading
499-1 to 5 Special Problems in Chemistry

Chinese/CHI
111-4 Essentials of Chinese
Introduction to Chinese with emphasis on speaking the language.

Classics/CLS
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 that portion of contemporary specialized vocabulary which 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, the philosophy, religion, mythology, literature, art, and architecture. (Previously listed as CLS 111.)

160-3 Introduction to Classical Mythology
Survey of the myths and legends of ancient Greece and Rome which are an important part of the Western literary and cultural tradition. Emphasis on story patterns and characters. (Previously listed as CLS 211.)

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 the evidence is analyzed, handled, and interpreted by scholars.

310-4 The Golden Age of Greece
The 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. (Previously listed as CLS 112.)

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. (Previously listed as CLS 113.)

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; literary criticism. (Previously listed as CLS 310.)

340-4 Studies in Ancient Art and Archaeology
(Listed jointly with Department of Art and Art History; see ART 411.) Greece in the Bronze Age; classical Greece and Rome; 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 myth; archaeological and nonliterary sources. (Previously listed as CLS 320.)

370-4 Studies in Ancient Law, Government, and Politics
The law and legal systems of Greece and Rome; government and administration; political problems of the ancient world. (Previously listed as CLS 330.)

399-1 to 4 Studies in Selected Subjects
Course of variable content dealing with problems, approaches, and topics in the field of classics.

410-4 Advanced Studies in Antiquity
Literature, mythology, law and government, art and archaeology, culture and society.

481-4 Independent Reading
Directed studies in literature, mythology, archaeology, law, and government. For classical humanities majors only.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>101-3</td>
<td>Essentials of Public Address</td>
<td>Fundamentals of verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of a speech.</td>
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<tr>
<td>102-3</td>
<td>Essentials of Interpersonal Communication</td>
<td>Introduction to intrapersonal and interpersonal communication processes as they affect communication style and competence. Emphasis on a holistic approach to communication by analyzing experiences, behaviors, and skills.</td>
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<tr>
<td>103-3</td>
<td>Communication for Teachers</td>
<td>Principles and practice of oral communication in discussion, reading aloud, storytelling, and public speaking. For elementary education majors only.</td>
</tr>
<tr>
<td>104-2</td>
<td>Effective Career Planning</td>
<td>Assists students in developing academic major and career goals through identifying skills and interests and then researching appropriate options.</td>
</tr>
<tr>
<td>111-3</td>
<td>Oral Interpretation</td>
<td>Introduction to the oral experience of literature. Theory and technique of oral reading. Frequent performances by students. Not open to students with credit for ENG 115.</td>
</tr>
<tr>
<td>128-3</td>
<td>Phonetics</td>
<td>(Listed jointly with Department of English; see ENG 128.) Speech sounds of the English language: phonetic alphabet; introduction to dialects.</td>
</tr>
<tr>
<td>130-1</td>
<td>Introduction to Communication Activities</td>
<td>Research, practice, and participation in communication activities. Includes intercollegiate forensic activities, the departmental speakers' bureau, and individual communication assignments. Graded pass/satisfactory.</td>
</tr>
<tr>
<td>133-2</td>
<td>Parliamentary Procedure</td>
<td>Theory and practice in parliamentary procedure including creation of a class organization and construction of a constitution. Practice in framing and debating proposals.</td>
</tr>
<tr>
<td>141-3</td>
<td>Small Group Communication</td>
<td>Theory and practice in small group communication with projects in definition, analysis, research, organization, logical processes, and leadership.</td>
</tr>
<tr>
<td>152-3</td>
<td>Mass Communication</td>
<td>Study of the types, functions, and impact of the various mass communication media. (Previously listed as COM 252.)</td>
</tr>
<tr>
<td>203-3</td>
<td>Business Communication</td>
<td>Interorganizational communication skills for job interviewing, persuasive proposals, departmental meetings, oral report presentations, and job appraisals are experienced along with employee communications to accomplish job tasks.</td>
</tr>
<tr>
<td>205-3</td>
<td>Communication Development and Disorders</td>
<td>Development of normal speech, disorders of speech, special problems of speech-handicapped persons, speech therapy and the therapist.</td>
</tr>
<tr>
<td>211-3</td>
<td>Voice and Articulation</td>
<td>Theory and practice of voice and articulation effectiveness.</td>
</tr>
<tr>
<td>232-3</td>
<td>Argumentation and Debate</td>
<td>Projects in analysis, research, briefing, ordering of arguments and evidence, refutation, audience evaluation, argumentative composition, and delivery. Prerequisite: COM 101 or permission of instructor.</td>
</tr>
<tr>
<td>251-3</td>
<td>Introduction to Broadcasting</td>
<td>Fundamentals of broadcasting, including the structure, development, and technology of radio and television broadcasting in the United States. Prerequisite: COM 152. (Previously listed as COM 151.)</td>
</tr>
<tr>
<td>254-3</td>
<td>Introduction to Journalism</td>
<td>(Listed jointly with Department of English; see ENG 254.) Overview of the role of the press in American society with special emphasis on print media. Topics include the press, government, and the First Amendment. Prerequisite: COM 152.</td>
</tr>
<tr>
<td>256-3</td>
<td>Basic News Writing</td>
<td>(Listed jointly with Department of English; see ENG 256.) Introduction to writing for print media. Structure and organization of news stories. Course requires reporting in the field.</td>
</tr>
<tr>
<td>304-2</td>
<td>Implementing Career Decisions</td>
<td>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.</td>
</tr>
<tr>
<td>312-4</td>
<td>Interpretation of Poetry</td>
<td>Advanced study of oral interpretation. Lectures, discussion, and frequent performances of students that explore methods of analysis and communicative techniques for oral interpretation of modern poetry. Prerequisite: COM 111 or permission of instructor.</td>
</tr>
<tr>
<td>313-4</td>
<td>Oral Interpretation of Prose</td>
<td>Advanced study of oral interpretation. Lectures, discussion, and frequent performances of students that explore methods of analysis and communicative techniques for oral interpretation of fiction. Prerequisite: COM 111 or permission of instructor.</td>
</tr>
</tbody>
</table>
330-1 Advanced Communication Activities
Research, practice, and participation in tournaments, forums, symposia, exhibition speaking, or an oral communication project designed to meet the interest of individual students. Graded pass/unsatisfactory.

335-4 Classical Rhetorical Theory
Survey of rhetorical theory in the Greek and Roman world. Emphasis on selected works of Plato, Aristotle, Socrates, Cicero, and Quintilian. 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 and one external campaign for students. Prerequisite: COM 203.

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.

349-4 Marital Communication: Functional Discourse in a Permanent Relationship
Explores the role that communication plays in marital relationships. Prerequisite: COM 102 or permission of instructor.

358-4 Emerging Communication Technologies
Examines developing communication technologies with emphasis on alternative delivery systems.

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.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of speech. Topics vary.

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. Prerequisite: COM 111 or 251 or permission of instructor.

421-4 Language Development
Development of speech and language in the preschool years. Prerequisite: COM 205.

429-4 Urban Communications Theory
(Listed jointly with Department of Political Science; see PLS 429.) Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.

432-4 Female/Male Communication
Comparison and contrast of the communicative modes of women and men with a study of how to improve these transactions.

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 203, 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. Prerequisite: COM 203.

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 203 or permission of instructor.

447-4 Organizational Communication
Simulation focusing on the creation of an organizational product, philosophy, and environment within a designated organizational structure. Experiences include development of communication channels, networks, roles, and climate based on current communication theory. Prerequisite: COM 203 or permission of instructor.

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 203, 447, or permission of instructor.
Courses/Communication

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
(Listed jointly with Department of English; see 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
(Listed jointly with Department of English; see 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 Broadcast Programming and Management
Purpose, function, structure, and programming of broadcasting organizations. Prerequisite: COM 251 or permission of instructor.

462-4 Mass Media: Law and Regulation
Study of laws and regulations affecting mass media. Prerequisite: COM 251 or permission of instructor.

464-4 Broadcast Criticism
Analysis of contemporary programming and production practices including the development of critical standards for evaluation. Prerequisite: COM 251 or permission of instructor. (Previously listed as COM 362.)

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 which 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
The 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

201-4, 202-4, 203-4 Masterpieces of Western Literature
Comparative study and analysis of chronologically selected works from the literatures of the western world. 201: Ancient World and Middle Ages. 202: Renaissance and Neoclassicism. 203: Romanticism to the Modern Period.

210-4 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 theatre, 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.

405-4 Theory of Comparative Literature
History and development of comparative literature as a discipline; study of basic reference works and journals; papers and reports based on comparative studies.

Comparative Studies/CST/CSE

General Education Courses

CST 220-3 Comparative Nonwestern 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 Nonwestern World Views
Examination of the world views of selected nonwestern 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 Nonwestern 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 Nonwestern 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 Nonwestern 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 Nonwestern 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 Nonwestern World Views
Examination of the world views of selected nonwestern people 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 Nonwestern 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 Nonwestern 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 Nonwestern 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
260-4 Digital Computer Hardware/Switching Circuits
(Listed jointly with Department of Electrical Systems Engineering; see ESE 351.) Provides computer scientists, engineers, and other computer users with terminology and understanding of physical components used in computer hardware. 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.

320-4 Computer Organization
Provides computer scientists, engineers, and other computer users with terminology and understanding of functional organizations and sequential operation of a digital computer. Introduction to program structure, machine and assembly language, stored programs, computer arithmetic, input/output, peripherals, and interfaces. Computer description using a register transfer computer design language. 3 hours lecture, 2 hours lab. Prerequisite: CEG 260, CS 146.

360-4 Digital System Design
(Listed jointly with Department of Electrical Systems Engineering; see ESE 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.

391-4 Introduction to Data Communication
Principles of digital communication discussed from a conceptual point of view with an elementary survey of theoretical aspects. Trends analyzed in the context of competing technologies, changing needs, and emerging new technologies.

399-1 to 5 Selected Topics
Topics vary. May be taken for letter grade or pass/unsatisfactory.

402-4 Introduction to Computer Communication Design
Survey of modern digital communications techniques. Specific 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, network, 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 utilization 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 or ESE 351; ESE 320 or equivalent. For nonmajors only.
184 Courses/Computer Engineering

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 360, 430

430-4 Assembly Language Programming
Use of an operating system including its file structure, utilities, editor, assemblers, and linker to construct programs. Assembler topics include addressing, stacks and argument passing, arithmetic operations, input/output, traps, and macros. 3 hours lecture, 2 hours lab. Prerequisite: CEG 320, CS 400.

431-4 Real-Time Software Design
Concurrent programming, concurrency, processes, synchronization. Concepts are used together with interrupts to construct the kernel of an operating system and concurrent processes for input/output and user programs. 3 hours lecture, 2 hours lab. Prerequisite: CEG 430.

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 430.

454-4 VLSI Design
(Listed jointly with Department of Electrical Systems Engineering: see ESE 454.) Introduction to VLSI system design. Topics include NMOS devices and circuit design techniques, basic building blocks for NMOS 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: ESE 441; CEG 360 or ESE 451.

456-4 Introduction to Robotics
(Listed jointly with Departments of Electrical and Mechanical Systems Engineering: see ESE 456, MSE 456.) Introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, kinematic equations, trajectory planning, dynamics, control, programming, and computer vision. Prerequisite: MTH 233.

476-4 Computer Graphics
(Listed jointly with Department of Mathematics and Statistics: see MTH 476.) Principles of computer graphics: representation of two- and three-dimensional space on a display. Data compression. Hidden surface problems, displays, input, graphics, software packages, real-time applications. 3 hours lecture, 2 hours lab. Prerequisite: CS 400, MTH 253.

477-4 Computer Graphics II
(Listed jointly with Department of Mathematics and Statistics: see 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

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.

146-4 Introduction to Data Structures
Introduction to computer programming for computing majors. Topics include program design, style, debugging, and testing, especially for larger programs; algorithmic analysis, and basic aspects of string processing, recursion, internal search/sort methods, and simple data structure. 3 hours lecture, 2 hours lab. Prerequisite: CS 142 and MTH 132.

200-3 COBOL for Nonprogrammers
Data processing with the COBOL language. Report preparation; data organization; procedure specification; table handling; program design and documentation; debugging techniques. For nonmajors only. Prerequisite: CS 141 or MIS 100.

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.
210-3 Introduction to FORTRAN for Engineers
Introduction to digital computers and computer programming with FORTRAN language. Algorithms and techniques useful to engineers. Data representation, debugging, and program verification. Programming assignments include solution of simultaneous equations, zeros of transcendental equations, numerical integration and differentiation, matrix operations, and complex arithmetic. Prerequisite: MTH 132.

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; case studies with business applications. 3 hours lecture, 2 hours lab. Prerequisite: for 300, CS 142; for 301, CS 300.

310-4 Assembly Language Programming—System 360/370
Thorough study of the basic assembly language of the system 360/370. Constant definition, conversions, moves, transfer of control and address manipulation, data manipulation, floating point and decimal modes, dumps, macros, conditional assemblies, and DCBs. Prerequisite: CEG 320.

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 300.

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 210, MTH 231, MTH 253 or 355; for 317, CS 316, MTH 233.

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 or permission of instructor.

393-4 Assembly Language Programming—System 360/370
Topics include elements of machine language and assembly language, constant definition, data conversion, data moves and manipulations, transfer of control and address modification, memory dumps and program debugging, data set definitions and usage, conditional assemblies, and executing and translating instructions. 3 hours lecture, 2 hours lab. For nonmajors only.

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 is on high-level language software design. 3 hours lecture, 2 hours lab. Prerequisite: CS 146; 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
(Listed jointly with Department of Mechanical Systems Engineering and Department of Mathematics and Statistics; see MSE 407, MTH 407.) Concepts of minima and maxima, linear programming; simplex method, sensitivity, and duality; transportation and assignment problems; dynamic programming. Prerequisite: MTH 233, 253 or 355.

410-4 Theoretical Foundations of Computing
(Listed jointly with Department of Mathematics and Statistics; see MTH 410.) Examines the limitations of algorithmic processes in problem solving. The following approaches are presented: Turing machines, Markov algorithms, recursive functions, and the methods of Kleene and Post. Other topics include Church's hypothesis as well as the halting problem and related decision problems. 3 hours lecture, 2 hours lab. Prerequisite: CS 142 and completion of a 400-level math course; or CS 400 and successful completion of at least one 300-level math or statistics course; or CS 433, CEG 320.

433-4 Operating Systems
The role of resource allocation in general computer systems. The problems, techniques, and concepts that arise in multiaccess, multiprogram, and multiprocess systems are emphasized. 3 hours lecture, 2 hours lab. Prerequisite: CEG 431.

458-3 Applied Graph Theory
(Listed jointly with Department of Mathematics and Statistics; see 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, MTH 231.
Introduction to Formal Languages

Introduction to the theory and application of formal languages. 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.

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.

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.

Selected Topics

Selected topics in computer science.

Cooperative Education/CPE

Cooperative Education
Participation in cooperative education.

Cooperative Education I, II
University-sponsored learning experience in a work setting related to student's academic or career interests. Approved learning objectives, oral and/or written reports, employer evaluation, and final conference with co-op coordinator are required.

Counseling/CNL

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.

Mental Health
Factors influencing behavior of individuals; methods a counselor may use in observing, analyzing, and improving attitudes and behavior.

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.

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.

Dance/DAN

Ballet I
Introduction to vocabulary, techniques, and theories of ballet. Emphasis placed on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training.

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.

Beginning Jazz
Emphasis on various contemporary jazz techniques and styles beginning with a warm-up and ending with a center floor combination.

Modern Dance II
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.

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 placed 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.
341-1 Improvisation
Exploration of improvisation techniques as a compositional tool. For dance majors only.
Prerequisite: DAN 213.

342-1, 343-1 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.

371-1, 372-1, 373-1 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.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of dance. Topics vary.

401-3, 402-3, 403-3 Ballet IV
Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: for 401, DAN 303; for 402, DAN 401; for 403, DAN 402; or departmental approval.

411-3, 412-3, 413-3 Modern Dance IV
Advanced work in modern dance techniques and styles. Prerequisite: for 411, DAN 313.

421-2, 422-2, 423-2 Jazz/Theatre Dance II
Diversified styles and techniques of contemporary musical theatre dancing, including jazz adagio and allegro combinations, and focusing on technique, musicality, style, and performance. Prerequisite: for 421, DAN 323; for 422, DAN 421; for 423, DAN 422.

491-1, 492-1, 493-1 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.

Danish/DN
111-4 Essentials of Danish
Introduction to Danish with an emphasis on speaking the language.

Developmental Education
See Study Skills

Economics/EC

General Education Course
200-3 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. Substitutions: EC 201, 202, and 203.

Departmental Courses

101-4 Economic Ideas and Issues
Introduction to basic economic concepts and application of the concepts to the development of economic systems including the formation and evolution of institutions through the interaction of economic, social, political, and cultural forces, as well as analysis of contemporary issues.

200-3 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, and 203 may be substituted for EC 200.

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.

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.

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. The production process and operation of market mechanisms. Policy implications are emphasized. Prerequisite: EC 201, 202, 203 or permission of instructor.

316-4 Economic Behavior and Sociopolitical Institutions
Focuses on interrelationships between market and nonmarket forces, exploring contemporary social, technological, political, and other influences on resource allocation decisions and on economic change. Prerequisite: EC 201, 202, 203 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. Prerequisite: EC 201, 202, 203 or permission of instructor.

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.

340-3 Comparative Economic Systems
Comparison of chief characteristics of capitalism, communism, socialism, and facsim to clarify the economic process in a free-enterprise society. Prerequisite: EC 201, 202, 203 or permission of instructor.

351-3 Labor Markets and Unions
The determinants of labor market behavior, wages, employment, and unemployment. The role of public policy, collective bargaining, and union behavior. Prerequisite: EC 201, 202, 203 or permission of instructor.

352-3 Labor Legislation
Public policy with respect to protective and labor management legislation. Prerequisite: EC 201, 202, 203 or permission of instructor.

354-3 Job-training Analysis and Planning
Application of statistical and manpower tools to human capital development, structural change, planning, training, placement, income maintenance, supporting services, and public policy. Prerequisite: EC 201, 202, 203 or permission of instructor.

370-3 Environmental Economics
Analysis of the economics of water, air, and noise pollution, pesticide use, solid waste disposal, and land use practices. Emphasis on the effectiveness of regulation, prohibition, zoning, subsidies, and effluent charges as methods to combat environmental problems. Relationships between environmental decay and overpopulation, overurbanization, and economic growth are covered. Prerequisite: EC 201, 202, 203 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.

409-4 Applied Economics
Application of statistics and economic theory to measurement, forecasting, and other economic problems. Prerequisite: EC 201, 202, 203; MS 201 or equivalent.

410-4 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: EC 201, 202, 203; MS 201 or equivalent.

425-4 Development of Economic Thought
Historical development of economic thought and philosophies. Prerequisite: EC 201, 202, 203 or permission of instructor.

430-3 Economics of Health Care Service: A Survey
Explores problems with the current health care delivery system and the political and economic factors responsible for the evaluation of the health care system.

431-4 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.

432-4 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.

436-4 Economics of Regulation
Principles and practices of government regulation of business. Emphasis on public utilities and antitrust policies. Prerequisite: EC 201, 202, 203 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, interregional trade, regional development, urban regions, and growth strategies. Prerequisite: EC 201, 202, 203 or permission of instructor.

441-3 International Trade and the Economy
Economic reasons for international trade. Impact of trade and trade 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.

454-3 Economics of Collective Bargaining
Development of collective bargaining in the United States: economic cost of labor-management relations. Prerequisite: EC 201, 202, 203 or 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.

Education Courses

189 Ed 219-1 to 8 Assistant Teacher in the Public School
Supervised experience in which students assume membership positions of an instructional team to perform such functions as preparing instructional materials, routine managerial tasks, supervising playground, lunchroom, and bus activities, and working with small groups of pupils.

220-3 Development of the School-Age Child
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. Prerequisite: ED 214, 216, 221, 222. Corequisite: ED 218, 223.

221-0 Field Clinical I
Forty hours of field/clinical experiences in which students are introduced to the educational process through participation in a classroom and through an examination of the dynamics of that classroom and its setting. Corequisite: ED 216 or permission of Phase I coordinator.

222-0 Field Clinical II
Forty hours of field/clinical experiences in which students apply problem-solving strategies to an examination of philosophical, social, political, and economic problems and issues which affect the educational system. Prerequisite: ED 216, 221; or equivalent. Corequisite: ED 214; or permission of Phase I coordinator.

223-0 Field Clinical III
Forty hours of field/clinical experiences in which students apply knowledge of learning theory and management strategy to their interaction with students. Prerequisite: ED 216, 221; or equivalent. Corequisite: ED 302; or permission of Phase I coordinator.

241-3, 242-3, 243-3 Physical Science
Content of the physical sciences integrated to promote understanding of and 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. (Previously listed as ED 217.)

310-3 Effective Parenting
Assists parents and prospective parents in understanding their children’s physical, social, intellectual, and educational development. Consideration given to growth and development patterns, communication with children, discipline, management, the child’s relationship with the family, and strategies for creating an optimum educational environment.
190 Courses/Education

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. Corequisite: ED 327.

315-3 Elementary School Children's Literature: Curriculum and Materials

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 327.

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.

321-0, 322-0, 323-0 Field/Clinical IV, V, VI
Sixty hours of field/cclinical experiences in the public school in which students implement teaching strategies that have been introduced in the Phase II methods components. For 321, completion of Phase I and registration in Phase II required. For 322 and 323, permission of the Phase II coordinator required. Prerequisite: for 322, ED 321; for 323, ED 322. Corequisite: for 321, ED 327 or permission of Phase II coordinator.

327-3 Teaching Skills
Explores the use of basic skills in planning, motivation, questioning, audiovisual equipment and production, alternative instructional strategies, and management techniques that help facilitate instruction. Prerequisite: ED 214, 216, 218, 220. Corequisite: ED 321.

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 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 adviser.

403-3 to 4 Child Development
Factors that influence growth and development. Prerequisite: ED 214, 216, 218, 220 or equivalent.

404-3 Adolescent Development
Examination of adolescence, emphasizes 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.

406-3 Survey of Vocational Education
Overview of the instructional programs in vocational education with emphasis on the types of programs, their administration, and their relationship to other phases of education. Vocational services covered include business and marketing education, agriculture education, home economics education, industrial arts education, health occupations, technical education, trade and industrial education, and vocational guidance.

407-3 Cooperative Office Education
Qualifying course for Cooperative Office Education programs. Overview of Cooperative Office Education with emphasis on coordinating techniques applicable in high school, post-high school, and adult training areas. Prerequisite: ED 433.

408-3 Intensive Office Education
Qualifying course for Intensive Office Education. Comprehensive study in developing procedures and principles in program construction, selection, improvement, implementation, and development of program guidelines. Prerequisite: ED 433.

409-4 Early Childhood Curriculum and Materials: Sociocultural
Historical, philosophical, and sociological aspects of early childhood education. Emphasis on the development of race awareness in young children and the development of self-concept. Prerequisite: ED 411 or 412 or permission of instructor.

411-4 Early Childhood Education
Introduction, history, and development of the profession of early childhood education. Focuses on job opportunities, professional organizations, and needs and development levels of young children. Includes basic information about skills and competencies necessary for teaching young children. Prerequisite: ED 214, 216, 218, 220 or equivalent.
412-4 *Kindergarten: Curriculum and Materials*
Various types of early childhood programs in the United States. Research in historical background of such programs. Review of basic human growth and learning principles significant for understanding young children, prenatal through age eight. Focus on planning effective preschool and early learning programs. Prerequisite: ED 214, 216, 218, 220 or equivalent.

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.

414-4 *Early Childhood Education Curriculum and Materials: Language*
Emphasizes existing commercial materials for preschool language development, evaluation of these materials, and design and presentation of supplementary and basic teacher-made materials. Prerequisite: ED 214, 216, 218, 220 or equivalent.

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.

416-3 to 4 *Improving Science Instruction in the Elementary School*
Selected scientific principles that have particular application in the elementary school. Inquiry through a laboratory approach emphasized. Prerequisite: ED 241, 242, 243; BIO 105, 106, 107; or equivalent or permission of instructor.

417-3 to 4 *Elementary School Social Studies: Curriculum and Materials*
Objectives, principles, and trends in elementary social studies education. 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 the use of both routine and nonroutine problems in school mathematics. Prerequisite: ED 214, 216, 218, 220 or equivalent; ED 437 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 14 credit hours for student teaching in the fall and 12 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 422 and permission of director of laboratory experiences required. Student teaching and ED 422 constitute a full load for the quarter. No other course work may be taken with the exception of ED 440. Completion of 112 credit hours (at least 12 of which must have been taken at Wright State), participation experiences, the currently required cumulative grade point average, and completion of ED 315, 316, 317, 437, or equivalent with grades of C or above required. In addition, students in special education must also complete ED 302, 441, 442, 455, and 456 with a grade of C or above. Students seeking kindergarten certification must also complete either ED 411 or 412 or 414, with a grade of C or above.

420-2 to 4 *Studies in English Education*
Focuses on theoretical issues and practical problems of teaching English at all levels to meet the needs of teachers of English to speakers of other languages (TESOL). Includes theory and evaluation procedures for TESOL.

421-3 *Books and the Educational Program*
Knowledge of 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*
Discussion of problems and concerns encountered during student teaching to bring professional theory and practice into working perspective. Corequisite: ED 419 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. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 327. (Previously listed as ED 332)

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. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 327. (Previously listed as ED 333)

425-3 Modern Foreign Languages: Curriculum and Materials
Modern language curriculum in public schools; purposes; methods; materials. Completion of a 200-level language course or permission of instructor required. Prerequisite: ED 214, 216, 218, 220. Corequisite: ED 327. (Previously listed as ED 334)

426-2 to 5 Outdoor Education
Provides teachers and leaders seeking skills in the use of the out-of-doors as a resource for 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 appropriate curriculum and materials course 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); participation experiences; 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 curriculum and materials course with grade of C or above and 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 any course other than ED 422 and ED 440 not permitted. Concurrent enrollment in ED 422 is required.

430-3 Teaching About Religion in the Public School
(Listed jointly with Department of Religion; see REL 430) Introduction to the historical background and court decisions pertaining to teaching about religion in the public school; current ways in which religion is taught in the public school; and new experimental approaches to teaching about religion.

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. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 327.

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. Corequisite: ED 327.

433-4 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. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 327.

434-3 Business Education Curriculum and Materials: Typewriting, Keyboarding, and Office Procedures
Curriculum, methods, and materials in typewriting, keyboarding, and office procedures in the secondary school; current trends in teaching typewriting, keyboarding, and office procedures. Prerequisite or corequisite: ED 433, OA 213.

Curriculum, methods, and materials in teaching shorthand, transcription, word processing, and secretarial procedures. Prerequisite or corequisite: ED 322; OA 203, 213. Corequisite: ED 327.

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 numeration system studies at this level. Prerequisite: ED 214, 216, 218, 220 or equivalent. Prerequisite or corequisite: ED 327.

438-3 Secondary School Mathematics: Curriculum and Materials
Curriculum, methods, and materials in the mathematics of grades 7-12. Prerequisite: ED 214, 216, 218, 220. Prerequisite or corequisite: ED 327.

439-3 to 4 Secondary School Social Studies: Curriculum and Materials
Objectives, principles, and trends in secondary social studies education. Prerequisite: ED 214, 216, 218, 220 or equivalent. Corequisite: ED 327.
440-1 to 4 The Teacher in School and Society
Seminar dealing with legal and social issues affecting education, and the development of a personal philosophy of education. Prerequisite or corequisite: ED 419 or 429.

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; 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, 455 or equivalent.

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: ED 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 214, 216, 220, 455 (ED 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: ED 451 or 455 or RHB 301.

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: ED 417 or 439.

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 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: ED 444, 451, 452.

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 or corequisite: ED 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.

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 432, 437, 442, 454, 455. Nonspecial education majors do not need ED 442 and 455.

457-4 Mental Health and the Retarded Client
Reviews mental health needs and problems of the mentally retarded client and special remediation techniques. Both mildly retarded and moderately/severely/profoundly retarded (MSPR) clients are addressed.

458-1 to 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.
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 or corequisite: ED 451 or 455.

460-1 to 4 Practicum in English Education
Students are assigned to an instructional class which focuses on the teaching of English to speakers of other languages (TESOL) for a supervised practicum experience. Graded pass/unsatisfactory. Prerequisite: ED 420.

462-3 Student Personality and Development Problems
Applied personality and developmental theories, perspectives in mental health, and family and school environmental influences toward the recognition and resolution of the problems of pupils.

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
Assuming 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.

Electrical Systems Engineering/ESE

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. (Previously listed as EGR 231.)

320-5 Circuit Analysis I
Topics include component laws, network topology, node and mesh analysis, computer solution techniques, and sinusoidal steady-state analysis. Emphasis on linearity and on the interrelationship between the frequency and time domains. 4 hours lecture, 2 hours lab. Prerequisite: CS 142 or 210; MTH 233. Corequisite: PHY 242. (Previously listed as EGR 320.)

321-4 Linear Systems I
Considers systems in a broad context including linear, nonlinear, variant, invariant; and analog and discrete. Various approaches to system and signal modeling are also discussed with emphasis on the Fourier transform technique. 4 hours lecture, 1 hour recitation. Prerequisite: ESE 320. (Previously listed as EGR 321.)

322-3 Linear Systems II
Extends techniques of EGR 321. Introduces convolution and emphasizes the relationship among convolution, the system function, and the differential equation description. Develops the Laplace and z-Transform techniques and provides an introduction to digital filter theory. Prerequisite: ESE 321. (Previously listed as EGR 322.)

323-4.5 Discrete Systems
Extends the techniques of EGR 321 and 322 to discrete time systems. System descriptions using difference equations, transfer functions, singularity function response, and pole zero locations. System response using classical difference equation solutions, discrete convolution and z-Transform methods, and stability. Frequency response, discrete and fast Fourier transforms, and digital filter synthesis. 3 hours lecture, 3 hours lab. Prerequisite: ESE 322. (Previously listed as EGR 323.)

324-3 Circuit Analysis II
Continuation of Circuit Analysis I course. Topics include operational amplifier circuits, mutual inductances and transformers, steady-state power calculations and power factor, balance 3-ph circuits, series and parallel resonance and filters, and two port circuits. Prerequisite: ESE 320. (Previously listed as EGR 324.)

327-3.5 Introduction to Analog Systems
Electrical and mechanical analog computing components, solutions to algebraic and differential equations, time and amplitude scaling, and simulation techniques. 2 hours lecture. 3 hours lab. Prerequisite: ESE 321. (Previously listed as EGR 327.)

341-4.5 Electronic Devices
Introduction to basic solid-state electron devices. Fundamentals necessary for comprehension and further study of modern engineering electronics. Topics include carrier flow in semiconductors, p-n junction theory, semiconductor diodes, bipolar junction transistors, field effect transistors, biasing, and introduction to amplifiers. 3 hours lecture, 3 hours lab. Prerequisite: ESE 320. (Previously listed as EGR 341.)

345-4 Electromagnetics
Electrostatics and magnetics; induced electromotive force. Maxwell's equations and their physical interpretation and application. Prerequisite: ESE 320, MTH 232. (Previously listed as EGR 345.)
346-3 to 4 Transmission Lines, Waveguides, and Radiating Systems
Plane waves in free space and matter. Development of the transmission line equations and application of Smith charts. Application of Maxwell’s equations to the rectangular and circular waveguides. Introduction to radiating systems including the dipole and loop antennae. Actual design of typical systems containing transmission lines, waveguides, and antennae. Prerequisite: ESE 345. (Previously listed as EGR 346.)

351-4 Switching Theory and Circuits
(Listed jointly with Department of Computer Engineering; see CEG 260.) Switching algebra and switching functions, logical design of combinational and sequential switching circuits using integrated circuits. 3 hours lecture, 2 hours lab. (Previously listed as EGR 351.)

405-5 Applied Electronics
Application of modern electronics for use in instrumentation and data, principally utilizing integrated circuits. Topics include useful circuit laws, transistor switches, flip-flops, ideal linear voltage amplifiers, operational amplifiers, feedback amplifiers, and measuring instruments. 3 hours lecture or independent study, 4 hours lab. Prerequisite: ESE 320. (Previously listed as EGR 405.)

421-4 Communication Theory
Analysis of linear systems by the Fourier transform and the time convolution integral methods. Introduction to information theory. Comparative evaluation of various analog and pulse modulation techniques. Selected topics from radar theory and electro-optics as well as an introduction to random process theory. Prerequisite: ESE 322, MTH 232. (Previously listed as EGR 421.)

425-4 Control Systems I
Introduction to control systems using state variables and classical analysis. Closed loop system representation, block diagrams, time response, and frequency response. 3 hours lecture, 2 hours lab. Prerequisite: ESE 321. (Previously listed as EGR 425.)

426-4 Control Systems II
System stability and closed loop response are analyzed using Routh-Hurwitz, Nyquist, and root locus techniques. System specifications and compensation realized using state variables and classical analysis. 3 hours lecture, 2 hours lab. Prerequisite: ESE 322, 425. (Previously listed as EGR 426.)

427-4 Digital Control Systems
Sampled spectra and aliasing; design of digital control systems using transform techniques and state-space methods; discrete equivalents to continuous transfer functions; and quantization effects. 3 hours lecture, 2 hours lab. Prerequisite: ESE 426. (Previously listed as EGR 427.)

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: ESE 322, MTH 232. (Previously listed as EGR 430.)

433-4 Reliability Analysis
Elements of probability theory: events, probability axioms, random variables, discrete and continuous distributions, and moments and characteristic functions. Applications of mathematical tools: component and system failure models. Marginal failures: initial tolerances, environmental drifts, transfer functions and sensitivities. Passive and active redundancy techniques. Repairable systems: maintainability, availability, and reliability acceptance. Prerequisite: ESE 322. (Previously listed as EGR 433.)

435-3 Network Synthesis and Design
Active and passive network analysis; zero-network functions and their realizability: introductory filter concepts and the approximation problem; passive network synthesis; and basics of active filter synthesis. Prerequisite: ESE 322. (Previously listed as EGR 435.)

441-4.5 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, and multi-stage and feedback amplifiers. 3 hours lecture, 3 hours lab. Prerequisite: ESE 341. (Previously listed as EGR 441.)

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: ESE 441. (Previously listed as EGR 444.)

449-4 Pulse and Digital Circuits
Design and analysis of pulse and switching circuits including linear wave and diode wave shaping; logic types, DTL, DCTL, RTL, TTL, and ECL; bistable, astable, and monostable multivibrators; voltage comparators; Schmitt triggers; blocking oscillators; and magnetic core switching. 3 hours lecture, 2 hours lab. Prerequisite: ESE 441. (Previously listed as EGR 449.)
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451-4 Digital Systems Design
(Listed jointly with Department of Computer Engineering; see 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: ESE 351. (Previously listed as EGR 451.)

454-4 VLSI Design
(Listed jointly with Department of Computer Engineering; see CEG 454.) Introduction to VLSI system design. Topics include NMOS devices and circuit design techniques, basic building blocks for NMOS 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: ESE 441; ESE 451 or CEG 360. (Previously listed as EGR 454.)

456-4 Introduction to Robotics
(Listed jointly with Departments of Computer Engineering and Mechanical Systems Engineering; see CEG 456, MSE 456.) Introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, kinematic equations, trajectory planning, dynamics, control, programming, and computer vision. Prerequisite: MTH 233. (Previously listed as EGR 456.)

473-4 Communication Systems Design I
Introduction to communication system design. Topics include source characterization and encoding, choice of modems and the tradeoffs involved, and choice of received configuration. Techniques developed applied in the design of a deep space communication system. Prerequisite: ESE 322, 421 or permission of instructor. (Previously listed as EGR 470.)

474-3 Communication Systems Design II
Course completes the communication system design sequence and is intended to provide the support necessary to complete the ESE 473 design project. Topics include multi-level modems, coding, equalization, and link design. Prerequisite: ESE 473. (Previously listed as EGR 474.)

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: ESE 322. (Previously listed as EGR 475.)

499-1 to 5 Special Problems in Engineering
Special problems in advanced engineering. Topics vary.

Engineering/EGR

121-2.5 Engineering Drawing
Basic techniques of proper use of drafting instruments in general. Includes exercises in lettering; types of lines; freehand sketching; geometric constructions; multiview projections; sectional, auxiliary, and pictorial views; and dimensioning. 1 hour lecture, 3 hours lab.

141-3 Development of Engineering and Technology
Historical perspective of the development of engineering, science, and technology, including the interrelationship of technology and society. Engineering as a modern profession.

142-4 Introduction to Engineering Analysis
Introduction to engineering analysis: dimensions and units; electric circuits; vector algebra; and use of analog and digital computers. 3 hours lecture, 2 hours lab. Prerequisite: MTH 130, 131.

153-4 Engineering Computer Analysis
Introduces computer skills useful in engineering analysis. Roots of equations, numerical integration, curve fitting, FORTRAN, simultaneous equations, graphical displays, and time-sharing systems. Prerequisite: CS 142, MTH 133.

300-4 Technology and Society
(Listed jointly with Departments of Religion and Sociology; see REL 300, SOC 311.) Important developments in engineering and technology and their interrelations with society and human values. Analysis of significant historical events in technology and their social consequences. Assessment of possible impact on society of contemporary technological developments.

356-4 Principles of Nuclear Engineering
Radioactivity and neutron physics; nuclear and thermal analysis of fission power systems and nuclear safety; and nuclear regulatory and environmental impact requirements. Prerequisite: MTH 233, PHY 242.

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 132.

499-1 to 5 Special Problems in Engineering
Special problems in advanced engineering. Topics vary.

English/ENG

General Education Courses

101-4 Freshman Composition
Concentrates on the writing process and its applications, stressing clarity, conciseness, and correctness. (Previously listed as ENG 111.)
102-4 Freshman Composition
Expository writing, stressing rhetorical principles. Prerequisite: ENG 101. (Previously listed as ENG 112.)

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 for their enduring interest.

Departmental Courses

094-4 English as a Second Language: Speaking
Basic course in spoken English, both production and comprehension. Graded pass/unsatisfactory. 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. (Previously listed as ENG 081)

098-4 English as a Second Language: Advanced Writing
Course in written communication with an emphasis on writing paragraphs and short compositions. Graded pass/unsatisfactory. For non-native speakers of English only.

101-4 Freshman Composition
Concentrates on the writing process and its applications, stressing clarity, conciseness, and correctness. (Previously listed as ENG 111.)

102-4 Freshman Composition
Expository writing, stressing rhetorical principles. Prerequisite: ENG 101. (Previously listed as ENG 112.)

115-3 Oral Interpretation
Introduction to the oral experience of literature. Theory and technique of oral reading. Frequent performances by students. Not open to students with credit for COM 111.

128-3 Phonetics
(Listed jointly with Department of Communication; see COM 128.) Speech sounds of the English language; phonetic alphabet; and introduction to dialects.

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.

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.

202-3 The Literary Tradition
Readings in British and American literature, for example, Shakespeare, American Masterpieces, British Novel, and Readings in Biography.

203-3 World Literature
Readings in world literature: for example, the Literature of Africa, the International Best Seller, and the Hero in World Myth.

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 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.

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.

212-3 Introduction to Drama
Introduction to the study and analysis of drama, including differences among plays of different periods.

240-3 Intermediate Composition
Improvement of writing skills with special attention to individual writing weaknesses. Includes a review of basic writing principles. Prerequisite: ENG 101, 102; or equivalent.

254-3 Introduction to Journalism
(Listed jointly with Department of Communication; see COM 254.) Overview of the role of the press in American society with special emphasis on print media. Topics include the press, government, and the First Amendment.

257-3 Basic News Writing
(Listed jointly with Department of Communication; see COM 256.) Introduction to writing for print media. Structure and organization of news stories. Requires reporting in the field.

330-3 Business Writing
Techniques in business writing with special attention to improving mechanical skills, reviewing forms of business writing, and analyzing business and technical prose. Prerequisite: ENG 101, 102; or equivalent.

333-4 Fundamentals of Technical Writing
Basics of technical writing with emphasis on descriptive techniques, audience analysis, and report writing. Prerequisite: ENG 101, 102; or equivalent.
198 Courses/English

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 101, 102, or equivalent.

344-4 Research Writing
Instruction in organization, documentation, and writing of research papers. Research projects based not only on primary and secondary sources but also on experiment and investigation. Prerequisite: ENG 101, 102, or equivalent.

454-4 Feature Story Writing
(Listed jointly with Department of Communication; see COM 454) Finding, writing, polishing, and marketing feature material. Prerequisite: ENG 257 or permission of instructor.

458-4 Editing for the Media
(Listed jointly with Department of Communication; see COM 458) Editing of copy for mass media with special emphasis on newspaper format, headline writing, rewriting, and general copy desk. Prerequisite: ENG 257 or COM 256 or permission of instructor.

479-4 History of the English Language
Study of the ancestry and early growth of English, 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 101, 102.

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.

Major 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.

255-4 English and American Literary History
Designed to give a sense of the continuity of literary history.

256-4 Writing About Literature
Techniques of reading literature as writing analytical, critical, and scholarly papers about literary topics. Prerequisite: ENG 101, 102, or equivalent.

301-4 Introduction to Creative Writing
Emphasizes foundations of the short story and poetry. Prerequisite: ENG 101, 102, or permission of instructor.

302-4 Poetry Writing
Fundamentals of verse writing: practice in traditional and contemporary concepts of poetic form. Prerequisite: ENG 101, 102, or permission of instructor.

303-4 Short Story Writing
Theory and practice of techniques of fiction emphasizing reading of literary models and writing of original stories. Prerequisite: ENG 101, 102, or permission of instructor.

304-4 Dramatic Writing
Theory and practice of techniques of dramatic writing emphasizing writing of original plays. Prerequisite: ENG 101, 102, or permission of instructor.

309-4 Creative Writing Workshop
Students work closely with the instructor on advanced projects in poetry, short story, drama, or the novel. Prerequisite: ENG 302 or 303 or 304, or permission of instructor.

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.

343-4 Advanced Composition
Emphasis on sophisticated techniques of expository writing and the refinement of style.

351-4 Major English Writers: Chaucer to Shakespeare
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.

352-4 English Literature: Renaissance and Enlightenment
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.

353-4 English Literature: Romantic and Victorian Writers
Representative works of such major Romantic and Victorian writers as Blake, Austen, Wordsworth, Coleridge, Keats, Shelley, Byron, Carlyle, Dickens, Tennyson, Browning, and Arnold.

354-4 English Literature: Modern Period
Representative works of such major English writers of the modern period as Hopkins, Hardy, Housman, Shaw, Conrad, Yeats, Joyce, Lawrence, Woolf, and Eliot.

355-4 American Literature: Romanticism
Representative works of such major American writers before the Civil War as Cooper, Poe, Emerson, Thoreau, Hawthorne, Melville, and Whitman.
American Literature: Realism and Naturalism
Representative works of such major American writers from the Civil War to World War I as Dickinson, Twain, James, Howells, Wharton, Crane, and Dreiser.

American Literature: Modern Period
Representative works of such major American writers since the twenties as Fitzgerald, O'Neill, Frost, Hemingway, Faulkner, and Stevens. Also includes selected contemporary writers.

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. Completion of at least three of the following courses is prerequisite to enrollment in the “Studies” courses: ENG 351, 352, 353, 354, 355, 356, 357.

Studies in Selected Subjects
Problems, approaches, and topics in the field of English. Topics vary.

Studies in English Literary History
Courses offered under this number provide intensive study of English literature from the point of view of literary history and are 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.

Studies in American Literary History
Courses offered under this number provide intensive study of American literature from the point of view of literary history and are 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.

Studies in Major English Writers
Courses offered under this number provide intensive study of the work of single, major English authors and are intended to develop an understanding of individual works of literature in the context of an author’s life and total literary production.

Studies in Major American Writers
Courses offered under this number provide intensive study of the work of single, major American authors and are intended to develop an understanding of individual works of literature in the context of an author’s life and total literary production.

Studies in Literary Types and Modes
Courses offered under this number provide intensive study of important literary forms such as poetry, the novel, comedy, tragedy, satire, and the epic, and are intended to develop an understanding of the formal aspects of literature as approached theoretically, analytically, and historically.

Studies in Literary Themes
Courses offered under this number provide 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.

Studies in Literary Criticism
Courses offered under this number provide intensive study of theoretical, practical, and historical aspects of literary criticism to develop an understanding of important critical questions and approaches.

Workshop
Intensive study of selected special topics or problems to meet the particular needs of participating students. Titles vary.

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. (Previously listed as ENG 497.)

History of the English Language
Study of the ancestry and early growth of English, 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 101, 102.

Studies in Linguistics
Courses offered under this number provide intensive study of the English language and linguistics and are intended to develop an understanding of historical, comparative, and descriptive approaches to the study of language and of the nature and value of their findings. Prerequisite: ENG 478.

Studies in World Literature
Courses offered under this number provide study, in English, of non-European literatures, focused nationally, regionally, cross-culturally, thematically, or generically (e.g., Caribbean Fiction, Modern Japanese Literature, and Commonwealth Literature).

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.

Creative Writing Seminar
Writing of fiction and/or poetry, group discussion of manuscripts, and special assignments in technique, related criticism, and contemporary professional writing.

English Honors Tutorial
Two-quarter sequence for senior English majors who are doing an English honors project.
Environmental Health/EH

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. (Previously listed as BIO 292.)

360-3 Environmental Aspects of Water Quality
Relationship of physical and biotic environment 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 202, CHM 141. (Previously listed as BIO 360.)

362-3 General Environmental Health
Relationship of physical/chemical/biotic environment to design/operation of systems and procedures employed in maintenance/promotion of quality, healthful human environments. Emphasized: food/dairy sanitation; solid waste; institutional/housing/recreational sanitation; and vector control. Prerequisite: BIO 202, CHM 141. (Previously listed as BIO 362.)

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. Prerequisite: STT 265. (Previously listed as BIO 364.)

366-9 Environmental Health Field 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: BIO 360 through 365. (Previously listed as BIO 366.)

461-2 Problems in Environmental Health
Seminar/workshop in professional aspects of environmental health. For environmental health majors only. Prerequisite: BIO 366 or permission of instructor. (Previously listed as BIO 461.)

462-3 Epidemiology and Community Health
Communicable and occupational diseases of contemporary importance; includes epidemiological investigation, environmental considerations, and control procedures. Prerequisite: BIO 360 through 365; or M&I 426; or permission of instructor. (Previously listed as BIO 462.)

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. Prerequisite: BIO 461 or permission of instructor. (Previously listed as BIO 463.)

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 141, MTH 130. (Previously listed as BIO 466.)

467-2 Occupational Health and Safety Lab
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 141, MTH 130. (Previously listed as BIO 467.)

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 141, 211, 215; MTH 130. (Previously listed as BIO 468.)

469-2 Industrial Hygiene I Lab
Introduction to industrial hygiene. Methods of measuring toxic effects and providing adequate protection discussed and demonstrated. Prerequisite: CHM 141, 211, 215; MTH 130. (Previously listed as BIO 469.)

486-3 Industrial Hygiene II
Evaluation of health effects of fumes, smoke, gases, dusts, and mists in the work place. Effects of radiation and noise considered. Prerequisite: BIO 468, 469, CHM 141, 211, 215; MTH 130. (Previously listed as BIO 486.)

487-2 Industrial Hygiene II Laboratory
Evaluation of health effects of fumes, smoke, gases, dusts, and mists in the work place. Methods of detection and control emphasized. Prerequisite: BIO 468, 469, CHM 141, 211, 215; MTH 130. (Previously listed as BIO 487.)

Environmental Studies/ENV

101-3 Our Environmental Crisis
Survey of environmental quality problems intended principally to stimulate awareness of an appreciation for the complexity of the issues that face us.

111-3 Environmental Perspective
Survey of global environmental issues providing background of fundamental principles and a historical perspective.
412-3 Limits to Growth
Systems approach to the study of environment, indicating present state of environmental problems and examining proposed scenarios for the future.

113-3 Value System Alternatives for Society
Examination of environmental issues that reflect expressed or implied value judgments in social, economic, and political institutions.

122-3 Managing Finite Resources
Balanced study of principles, practice, and policy in development and use of material resources, both domestic and foreign, including economics of material substitution and resource recovery.

123-3 Food and the Environment
Environmental issues related to the production of food to sustain a growing world population, including biological, social, economic, political, and ethical concerns.

124-3 Energy Production, Consumption, and Policy
Examination of large-scale energy production and use, including economic, social, political, and environmental implications, development and conservation potentials, and issues for a comprehensive energy policy.

211-3 Earth as an Energy System
Scientific and technical overview of ecosystems, energy, matter, pollution, and functioning of the biosphere.

212-3 Environment and Human as a Social Being
Relationship between physical environment and human behavior. Perception of space and effects of spatial arrangements on interaction patterns. Analysis of our capabilities and limitations in design of human-environmental systems.

213-3 Humanistic Perspectives of Environment
Impact of art, literature, philosophy, and religion on expressions toward the environment.

214-3 Energy Production: Alternative Solutions
(Listed jointly with Department of Physics; see PHY 214.) Basic energy concepts and physical processes by which natural resources are converted to useful energy. Physical principles are introduced as needed.

215-3 The Autonomous Home
Addresses current energy/resource consumption by the family unit. Concepts of integral lifestyle are presented including food production, water supply, and waste and energy management with emphasis on conservation and soft technology alternatives.

222-3 Basic Issues in Air Pollution
Holistic approach to the complex technical, economic, social, and legal issues surrounding air pollution and its control.

411-2 to 6 Internship
Individually arranged placement with cooperating agencies in metropolitan area.

412-6 Research Diving
Enables the scientist/ diver to apply basic research techniques and diving skills to the study of the aquatic environment. Lecture, pool sessions, and required field work. Prerequisite: HPR 101 or equivalent.

413-2 to 6 Applied Environmental Studies
The development and application of tools and techniques toward an environmentally appropriate response to specific issues, needs, and lifestyles. Completion of a minimum of three courses in environmental studies required.

499-1 to 5 Special Problems
Research or individual study designed for specific needs and abilities of students.

Finance/FIN

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.

231-3 Real Estate: Principles and Practices I
Principles and practices relating to sales, financing, and legal factors affecting real estate. Fundamentals of marketing, closings, interest rates, and ownership considerations are analyzed and discussed.

232-3 Real Estate Law
Basic real property and real estate law. An understanding of legal concepts and terminology for persons who wish to qualify for Ohio Real Estate licenses. Prerequisite: FIN 231 or permission of instructor.

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 return, time value of money, and capital budgeting. Prerequisite: ACC 203, CS 205, EC 201, 202, 203, MS 201.

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: family budgeting, installment buying, insurance, home ownership, investing in securities, taxes, retirement planning, and estate planning.
202 Courses/Finance

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.

335-3 Real Estate Brokerage
Real estate practices and management of property from the brokerage office manager's perspective. Managerial, financial, marketing, and legal aspects of real estate brokerage covered in depth. Prerequisite: FIN 331, 332.

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 Financial Institutions and Markets
Analysis of the operations and functions of financial institutions and markets. Topics include flow of funds, interest rate determination and structure, market structure, major types of institutions, and managerial and public policy issues. Prerequisite: FIN 302, EC 301.

412-3 Commercial Banking
The theory and practice of commercial banking from a financial management perspective. Topics include profitability analysis, liquidity, investment management, lending, liability and deposit management, capital, strategic planning, and contemporary issues. Prerequisite: FIN 411.

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.

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.

436-3 Seminar in Selected Real Estate Topics
Topics vary. Prerequisite: FIN 433, 434; or equivalent; or permission of instructor.

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. (Previously listed as FIN 352.)

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. (Previously listed as FIN 353.)

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
Emphasizing the development and application of a coordinated and systematic approach to financial planning. Extensive use of cases. For finance majors only. Prerequisite: FIN 401, 462.

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.
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.

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
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.

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: FR 103 or equivalent.

Advanced Courses
FR 202 or equivalent is the minimum prerequisite for all 300-level French courses.

301-4, 302-4 Survey of French Literature
301: Middle Ages, sixteenth and seventeenth centuries. 302: eighteenth, nineteenth, and twentieth centuries.

321-4, 322-4 French Composition
321: writing techniques and grammar review. 322: explication de texte; oral and written stylistic analyses.

341-4, 342-4 Advanced French Conversation
Practice in oral use of French emphasizing the culture of the French-speaking world.

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, dictation, 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 the field of French. Topics vary. Prerequisite: FR 302, 322; or permission of instructor.

403-4 Advanced Studies: Language Civilization
Conducted in French. Topics vary. Prerequisite: FR 322, 342; or permission of instructor.

421-4 Literature of the Middle Ages
Les Chansons de Geste: Roland, Guillaume; le roman de Tristan, Chrétien de Troyes; le roman de Renard; théâtre; and le roman de la Rose. Prerequisite: FR 302, 322; or permission of instructor.

422-4 Villon to Chénier
Three centuries of French poetry: Villon, Scève, Marot, Du Bellay, Ronsard, d'Aubigné, Maître-Bon, La Fontaine, Boileau, Voltaire, and Chénier. Prerequisite: FR 302, 322; or permission of instructor.

423-4 Seventeenth- and Eighteenth-Century Novel
Mme de la Fayette, Scarron, Fénélon, Montesquieu, Lesage, Prévost, Diderot, and Laclos. Prerequisite: FR 302, 322; 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, Cyrano de Bergerac, Saint-Evremont, La Bruyère, La Rochefoucauld, Bayle, Fontenelle, Diderot, and Voltaire. Prerequisite: FR 302, 322; or permission of instructor.

442-4 Seventeenth- and Eighteenth-Century Theatre
Works of Corneille, Molière, Racine, Marivaux, Diderot, Voltaire, and Beaumarchais. Prerequisite: FR 302, 322; 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 302, 322; 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 302, 322; or permission of instructor.

452-4 Nineteenth-Century Novel
Chateaubriand, Constant, Stendhal, Balzac, Flaubert, Zola, and France. Prerequisite: FR 302, 322; or permission of instructor.

453-4 Poetry from Baudelaire to Breton
Symbolists, Decadents, and Surrealists. Prerequisite: FR 302, 322; or permission of instructor.

454-4 Nineteenth-Century Short Story
Intensive study of such authors as Balzac, Stendhal, Nodier, Mérimée, Flaubert, Maupassant, and Huysmans. Prerequisite: FR 302, 322; or permission of instructor.

462-4, 463-4, 464-4 Twentieth-Century Literature
462: The Novel. 463: Drama. 464: Poetry. Prerequisite: FR 302, 322; or permission of instructor.
Courses French

465-4 Problems in French Literature
Selected topics in French literature that investigate various themes, myths, genres, literary movements, or characters. Titles vary. Prerequisite: FR 302, 322, or permission of instructor.

471-4 Introduction to Historical and Comparative Linguistics
(Listed jointly with Linguistics; see LI 471.)

481-4, 482-4 Independent Reading for Advanced Students
Topics vary.

Geography/GEO

Lower Division Courses

201-3 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. (Previously listed as GEO 101.)

202-3 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. (Previously listed as GEO 102.)

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. (Previously listed as GEO 103.)

262-4 Concepts in Cultural Geography
Examination of the principal traditions and related conceptual structures of contemporary cultural geography. Emphasis on the intellectual and methodological thrusts of ecology, diffusion, landscape, perception, region, and spatial order.

Upper Division Courses

302-4 Political Geography
Geographic appraisal of factors influencing evolution, structure, resource base, function, and associations of political units.

303-4 Space and Faith: Topics in Religion and Geography
(Listed jointly with Department of Religion; see REL 303.) The interrelation of religions and geographic factors in selected cultures of East and South Asia.

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. (Previously listed as GEO 275.)

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. (Previously listed as GEO 376.)

322-4 Principles of Geomorphology
Distribution of 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.

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. (Previously listed as GEO 225.)

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. (Previously listed as GEO 230.)

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. (Previously listed as GEO 242.)

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. (Previously listed as GEO 253.)
354-4 Geography of Manufacturing
Factors of industrial location utilizing empirical examples. Includes introduction to basic theories and techniques underlying the decision process in manufacturing locations.

360-4 Systematic Geography
Analysis of various geographic factors. Topics vary.

361-4 Remote Sensing
Basic survey of imaging remote sensor types and their operational characteristics, including sensors for the ultraviolet, visual, infrared, and microwave portions of the electromagnetic spectrum. (Previously listed as GEO 261.)

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 Conservation of Resources
Economic and geographic appraisal of resource conservation in the world, emphasizing an analytical approach to the solving of such contemporary problems as human population growth, environmental quality, recreation and open space, and resource management. (Previously listed as GEO 271.)

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. (Previously listed as GEO 285.)

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
The 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. (Previously listed as GEO 477.)

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. (Previously listed as GEO 478.)

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. (Previously listed as GEO 466.)

445-4 Intermediate Cartography and Map Interpretation
Study and practice of compilation processes for the development of maps and models utilizing 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.

458-4 Human Perception in Resource Management
Spatial factors influencing human response and decision making in resource-use schema. Study of how people perceive environmental elements and apprehend resources and natural hazards such as floods and droughts.

463-4 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.
Geological Sciences/GL

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, 3 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. Field trip required.


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 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.

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.

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, future problems in flood control, water pollution, water resource development. 3 hours lecture, 2 hours lab or field trip.
205-3 **Urban Geology**  
Study of the effect of geology on the historical development of cities. Use of geological reasoning in city and regional planning stressed.

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 forms are also studied. Corequisite: GL 252.

252-1.5 **Physical Geology and Geomorphology Laboratory I**  
Laboratory for minerals and rocks identification in hand specimens. Corequisite: GL 251.

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. (Previously listed as GL 152.)

256-1 **Historical Geology Laboratory**  
Introduction to the fossil record, stratigraphic correlation, and the interpretation of simple geologic maps. Corequisite: GL 255. (Previously listed as GL 155.)

**Advanced Courses**

301-6 **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.

305-4 **Mineral Deposits**  
Genesis, classification, and description of economic mineral deposits exclusive of petroleum deposits. Role of economic deposits in world affairs. 3 hours lecture, 2 hours lab. For nonmajors only.

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.

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.

330-4.5 **Paleontology I**  
Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.

331-4.5 **Paleontology II**  
Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.

333-4.5 **Stratigraphy**  
Principles, rules, and techniques of correlation. Relationships between surface and subsurface correlation. Geologic and geophysical correlation techniques. 3 hours lecture, 3 hours lab.

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.

399-1 to 6 **Special Problems**  
Research problems for specific needs and talents of students. Topics vary.

400-3 **Introduction to Solid Earth Physics**  
(Listed jointly with Department of Physics; see PHY 400.) The 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 132.

410-6 **Mineralogy**  
Lecture: chemistry and physics of minerals. Lab: identification of minerals by microscopic, macroscopic, and x-ray techniques. 3 hours lecture, 6 hours lab.

412-6 **Petrology**  
Origin of igneous, metamorphic, and sedimentary rocks. Lab: use of thin sections for mineral identification, microscopic structures, and rock classifications. 3 hours lecture, 6 hours lab.

413-5 **Geochemistry**  
Principles governing distribution of elements within the earth. Introduction to geochemical research methods. 3 hours lecture, 4 hours lab.
208 Courses/Geological Sciences

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.

417-3 Theoretical Hydrology
Introduction to mathematical and physical concepts in hydrology: equations of flow of ground water; mathematical modeling of boundary value problems in hydrology; steady state and unsteady state behavior. Hydrologic problems to be modeled selected on basis of students’ backgrounds and areas of interest.

418-4.5, 419-4.5 Igneous Petrology
Occurrence, chemical and geological features, and genesis of selected families of volcanic rocks. 418 lab: microscopic study of volcanic rock suites. 419 lab: microscopic study of plutonic rock suites. 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
A case study approach to understanding current federal, state, and local ground water law and regulations.

422-5 Introduction to Geophysical Prospecting
(Listed jointly with Department of Physics; see PHY 422.) Introduction to principles of the gravity, magnetic, seismic, electrical, and radioactive prospecting. 3 hours lecture, 4 hours lab. Prerequisite: MTH 132 or permission of instructor.

423-4 Seismic Exploration
(Listed jointly with Department of Physics; see PHY 423.) 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
(Listed jointly with Department of Physics; see 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.

425-4 Topical Concepts in Geophysics
(Listed jointly with Department of Physics; see PHY 425.) Special topics in geophysics. 3 hours lecture, 2 hours lab. Prerequisite: GL 400 or 422; or permission of instructor.

426-1 Geophysics Seminar
(Listed jointly with Department of Physics; see PHY 426.) Literature survey and presentations of students on selected topics in geophysics. Prerequisite: GL 400 or 422.

427-4 Regional Structural Synthesis
The 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 (643).

428-0.5 Geology Seminar
Selected geological topics discussed by students, guest speakers, and faculty.

429-4 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 333.

432-4.5 Carbonate Petrology
The character, composition, origin, and diagenesis of carbonate rocks are examined, utilizing ancient and modern examples. 3 hours lecture, 3 hours lab.

434-9 Field Geology
Geologic phenomena illustrated 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.

438-4 Seismic Interpretation
Interpretation techniques for seismic reflection data with emphasis on mapping structural and stratigraphic features from seismic sections and supporting well information. 2 hour lecture, 4 hour lab. Prerequisite: GL 422 or permission of instructor.

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 Geology of Earth Energy Resources
Geology of natural energy sources with emphasis on fossil fuels, especially petroleum and gas, but including geothermal energy and radioactive ore deposits. Explores geological and geographic distribution, genesis, exploration, production, governmental controls, and economic concerns. 3 hours lecture, 2 hours lab.

448-4 Sedimentary Geochemistry
Origin of sedimentary materials resulting from chemical processes. Structures of minerals in sedimentary materials (carbonates, clays) and their changes, with emphasis on properties and identification. 3 hours lecture, 2 hours lab. Prerequisite: GL 429.
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
The study of hydrogeology in the United States including water balance, budget, and yield.

452-3 Advanced Hydrogeology
Second-level course in hydrogeology designed to provide 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 (650).

453-3 Hydrogeochemistry
Lectures focus on the types of chemical reactions which control the composition of ground water. Included are solubility, adsorption and ion exchange, redox reactions, and complexing. Computer programs for geochemical modeling are introduced. Prerequisite: GL 410, CHM 121, 122, 141.

456-3 Engineering Geology I
Principles of engineering geology; application of geologic principles to engineering works. Impact and interrelationship of geologic processes on human construction efforts. 3 hours lecture, 3 hours lab.

457-4.5 Engineering Geology II
Engineering geology case studies. Review of classic and unusual engineering geology projects chosen from both published and unpublished sources to illustrate principles, problems, and solutions. 3 hours lecture, 3 hours lab.

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
(Listed jointly with Department of Mechanical Systems Engineering; see MSE 478.) Electron microprobe and x-ray fluorescence for analysis of rocks, minerals, and other substances explained and demonstrated on examples.

495-3 Geochemical Prospecting
Theory, techniques, and application of geochemistry to the exploration for economic mineral deposits including hydrocarbons.

499-1 to 6 Special Problems
Research problems for specific needs and talents of students. May be taken for letter grade or pass/unsatisfactory at option of department.

German/GER

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; selected readings of adult-level texts from various fields. May be taken for letter grade or pass/unsatisfactory.

201-4, 202-4, 203-4 Second-Year German
Grammar review, reading and discussion of selected texts, with practice speaking and writing the language. Prerequisite: GER 103 or equivalent.

215-4 Scientific German
Intensive reading in all areas of expository and technical German. Prerequisite: GER 102 or equivalent.

Advanced Courses

301-4, 302-4 Survey of German Literature
Historical survey of German literature from its beginning to the present. 301: literature of the Middle Ages, Renaissance, Reformation, Enlightenment, Storm and Stress. 302: Classicism, Romanticism, Poetic Realism, Modern Period. Prerequisite: GER 202 or equivalent.

321-4, 322-4 German Composition
Oral and written composition in German; translations from English into German. Further grammar study. Prerequisite: GER 202 or equivalent.

341-4, 342-4 German Conversation
Emphasis on the culture of the German-speaking world. Prerequisite: GER 202 or equivalent.

GER 302 and 322 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.
210 Courses/German

403-4 **Advanced Studies: Language Civilization**
Topics vary. Conducted in German.
Prerequisite: GER 342 or permission of instructor.

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 Eighteenth Century**
415: representative authors in Rococo, Enlightenment, Storm and Stress.
416: representative works of Goethe and Schiller.

417-4, 418-4 **German Romanticism**
Study of the romantic movement with representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others.

419-4 **Goethe's Faust**
Intensive study of Faust I and Faust II.

425-4, 426-4, 427-4 **German Literature of the Nineteenth Century**

431-4, 432-4, 433-4 **German Literature of the Twentieth 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.

471-4 **Linguistics**
(Listed jointly with Linguistics; see LI 471.)

481-4, 482-4 **Independent Reading for Advanced Students**
Topics vary.

**Greek/GR**
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, Menander. Study of at least one play in Greek. Topics include origin and development of tragedy, drama as a reflection of contemporary events, development of New Comedy.

352-4 **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, the Hellenistic poets. Topics for investigation include structure and technique of oral epic, the didactic tradition, lyric meters and diction, 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, Epictetus, Marcus Aurelius. Topics include pre-Socratics and the development of philosophical vocabulary, the sophistic movement, the Cynic tradition, the development of popular philosophy.

453-4 **Readings in Greek History and Biography**
Herodotus, Thucydides, Xenophon, Polybius, Plutarch. Topics for investigation include methods of composition, influences on historiography from the sophists and philosophers, the development of Greek historical writing, supplemental evidence from inscriptions and nonliterary sources.

455-4 **Readings in Greek Politics and Political Theory**
Lysias, Demosthenes, Isocrates, Old Oligarch, Plato, Xenophon, Aristotle. Topics for investigation include development of political ideas and vocabulary, nonliterary sources for our knowledge of Greek civil life, 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, Ptolemy; travel commentary of Strabo and Pausanias, essays of Athenaeus, fiction of Lucian. Prerequisite: GR 202.

481-1 to 4 **Independent Reading**
Health, Physical Education, and Recreation/HPR

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. Includes courses in Life Saving and Water Safety Instruction. 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 handicapped people; 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.

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.

284-3 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.
212 Courses: Health, Physical Education, and Recreation

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.

311-3 Sensory-Motor Development: An Interdisciplinary Approach
Motor activities of children as they relate to various academic disciplines: art, music, adapted physical education, special education, and dance.

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.

341-3 Aquatic Program Development
Development of aquatic shows and demonstrations to include water ballet, water shows, synchronized swimming, and other aquatic extravaganzas. Prerequisite: HPR 100 (Beginning Synchronized Swimming).

350-4 Kinesiology
Analysis of muscular interrelationships in basic body movements: analysis of principles of mechanics as they relate to fundamental and complex motor skills in physical education activities. Prerequisite: BIO 208 and 209 or ANT 201 and 202 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 208 and 209 or P&B 301 and 302 or equivalent.

353-3 Video Analysis in Sport
Explores the use of video technology in the analysis of sport movements and game strategies. Prerequisite: HPR 350; ED 327.

354-3 Psychology of Coaching
Study of the role of psychology in the total athletic spectrum. Prerequisite: ED 215.

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.

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, 222, 223, 327 (ED 327 may be taken concurrently).

381-3 Methods of Teaching Individual Sports
A variety of teaching techniques to be utilized when teaching individual sports. Prerequisite: ED 214, 216, 218, 220, 221, 222, 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, 222, 223, 327 (ED 327 may be taken concurrently).

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, 222, 223, 327 (ED 327 may be taken concurrently).

384-3 to 5 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 an 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.
435-1 to 3 Officiating
Study of the rules and techniques of officiating a particular sport. Typical sports covered include baseball, basketball, football, soccer, and volleyball. Prerequisite: HPR 101 in same sport.

440-3 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.

484-3 to 15 Practicum in Health, Physical Education, and Recreation
Supervised field work for senior students seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory. 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.

499-1 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. Titles vary.

History/HST

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 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.

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.

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. (Previously listed as HST 111, 112.)

214-4, 215-4 The Afro-American in United States History
Survey of black people in American society from colonial slave trade to the present. 214: African roots to the Civil War. 215: Reconstruction to the present.
Upper Division Courses

300-4 What Historians Do
Introduction to methods historians use to understand and interpret the past.

315-4 History of France Since the Old Regime
History of France from the collapse of the Old Regime and the beginning of the French Revolution to the present. Focus on political, ideological, and cultural factors.

316-4 Introduction to Urban History: Sumeria to Suburbia
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. (Previously listed as HST 216.)

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 nonwestern 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.

331-4, 332-4 History of Canada
331: Challenges and survival. 331: colony to nation, 1497-1867. 332: problems of Canadian nationalism, 1867 to present.

335-4 Sports in American Life
Survey of the development of American sports from colonial times to 1980, with emphasis on the social, political, and ideological forces that transformed folk games into commercial ventures.

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.

393-4 Ancient Near East
Politics and cultures of Mesopotamia, Egypt, Palestine, Syria to ca. 525 B.C.

394-4, 395-4 History of Greece
Minoan civilization, archaic and Hellenic Greece, and monarchies of the Hellenistic period, with stress on cultural history. 394: to 404 B.C. 395: 404 to 146 B.C.

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 Europe 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.

455-5 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 Punctanism 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.

480-4 Twentieth-Century United States History
Courses offered under this number examine particular stages of the twentieth-century American experience (e.g., the Progressive Era), or selected topics (e.g., the civil rights movement). Topics vary.
485-4 Special Topics in United States History
Courses offered under this number allow
intensive analysis of topics drawn from the
entire range of the American experience, such
as religion, diplomacy, women, immigration, and
urbanization. Topics vary.

491-1 to 4 Independent Readings
Faculty-directed readings in field of students’
choice.

495-4 Comparative History
Courses offered under this number compare
developments or movements in different parts of
the world and/or different times in history, such
as revolutions, slave systems, religious
movements, or other human experiences that
transcend a particular time or place.
Topics vary.

498-4 Historiography (American or European)
Introduction to the work of representative
historians and important theories of historical
interpretation.

Italian/ITA
111-4 Essentials of Italian
Introduction to Italian with emphasis on
speaking the language.

112-4 Essentials of Italian
Continuation of ITA 111 with emphasis on
speaking the language. Prerequisite: ITA 111
or equivalent.

113-4 Essentials of Italian
Continuation of ITA 112 with emphasis on
speaking the language. Prerequisite: ITA 112
or equivalent.

Japanese/JPN
111-4 Essentials of Japanese
Introduction to Japanese with emphasis on
speaking the language.

112-4 Essentials of Japanese
Continuation of JPN 111 with emphasis on
speaking the language. Prerequisite: JPN 111
or equivalent.

Latin/LAT
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, 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, 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, Silius. Topics include
intent and structure of the Aeneid, history and
development of Roman epic, structure and
transitional devices in the Metamorphoses,
nature of rhetorical epic.

355-4 Readings in Roman Poetry
Roman lyric and elegiac poetry: Virgil’s
Eclogues; Catullus, Horace, Propertius, Tibullus,
Ovid. Topics include meters and style of Latin
lyric, amatory tradition, influence of Hellenistic
poetry.

357-4 Readings in Roman Satire
Horace, Juvenal, Persius, Petronius, Martial.
Topics include development of this peculiar
Roman genre, fragments of Lucilius, satirical
methods and techniques, satirical epigram,
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, 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, Suetonius. Topics include
Roman historiographical tradition, family and
political influences: evidence from nonliterary
sources, 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, Augustus’ Res Gestae.

481-1 to 4 Independent Reading
216 Courses/Law

Law/LAW

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. (Previously listed as ADM 350.)

360-3 Legal Aspects of Business Organization

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. (Previously listed as ADM 352.)

460-1 to 4 Special Topics in Law
Topics vary. (Previously listed as ADM 477.)

Liberal Arts/LA

103-2, 105-4 Freshman Cooperative Education
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning which requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. Prerequisite: for 103, part-time work experience; for 105, full-time work experience.

199-1 to 2 Great Decisions
Faculty-led reading and discussion group centering on major foreign policy issues facing the United States. Topics vary.

203-2, 205-4 Sophomore Cooperative Education
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning which requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. 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 which requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. 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: MIS 100 or CS 141 or equivalent.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of liberal arts. Topics vary.

403-2, 405-4 Senior Cooperative Education
Work experience in a liberal arts discipline. Faculty supervise and evaluate learning which requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. 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.

Library and Communication Science/LCS

110-1 Using the Library
Presents basic approaches for using the library. Includes the card catalog, library classification, indexes, and introduction to selected reference sources for use in research projects and term reports.

210-1 Using Business Information Sources
Survey course in the business information sources of the library. Covers standard business bibliography and reference information sources as well as government document sources. Students learn strategies for researching business reports in the library. Graded pass/unsatisfactory. For business majors only.

280-3 Classroom Applications of Computers
Provides an introduction to instructional computing. Focus on practical instructional computing knowledge with major emphasis on how computers work, reading and writing simple programs in BASIC, choosing computer courseware, and incorporating instructional computing into a lesson.

370-1 to 4 Independent Study
Advanced individual study in an area not available through regular course offerings.

411-4 Reference Materials and Bibliography
Important reference works, indexes, and bibliographies with practical problems in their use. Students examine their role in the interaction between the user and the information environment.
421-3 Cataloging and Classification
Study of the development of the Dewey Decimal classification system and its application to library media center situations. Students learn the basic principles of descriptive cataloging, and receive instruction in the application of current cataloging rules, including subject headings.

435-4 Production of Instructional Materials
A nontechnical course, with emphasis on production of locally made materials for classroom use, including mounting, lettering, script writing, photography, tape recording, and transparency production.

445-3 Storytelling
Fundamental principles of the art of storytelling, techniques of adaptation and presentation. Broad foundation in materials of literature, styles of presentation, story cycles, methods of learning, practice in storytelling. Planning the story hour for the school and public library, recreation center, radio, and television.

446-3 Teaching Library and Research Skills in the Elementary and Secondary School
Study of the hierarchy of library and library research skills, ways to develop materials and to teach those skills; introduction to computer-assisted information retrieval.

449-3 Introduction to Instructional Media
Survey course in instructional media including the interpretation of visuals (projected and nonprojected), film, instructional TV, gaming, audio technology, multimedia systems, computers, operation of audiovisual equipment, and media facilities. Focus is on the appropriate use of media for specific instructional outcomes.

451-3 Educational Utilization of Broadcast Media
Study of the potential, the limitations, and the techniques for the utilization of broadcast media in the educational process.

455-4 Television Production
Survey of elementary problems of television production. Introduction to television techniques; participation on television productions in a wide variety of capacities. Programming utilization within the educational setting emphasized.

456-4 Advanced Television Production
Designed to improve the skills, knowledge, and creativity used in television broadcasting. Programming and production for educational and informational broadcasts are emphasized. Prerequisite: LCS 455 or permission of instructor.

457-1 to 4 Studies in Broadcasting
Intensive study of a selected area of broadcasting to meet the needs of educational broadcasting personnel, audiovisual specialists, and others interested in media and communications. Titles vary.

461-3 Selection of Materials
Selection of materials suitable for the library media-learning center or the elementary/secondary school with special emphasis on nonprint materials.

463-3 Literature for Adolescents and Young Adults
Study of the literature appropriate for adolescents and young adults. Survey, evaluations, selections of books, techniques of reading guidance, and promotion of books.

470-1 to 6 Workshop in Library and Communication Science
Intensive study of a selected area of library and communication science to meet the needs of librarians, audiovisual personnel, and others interested in media and communications.

481-1 to 12 Library/Media Practicum in the Elementary School
Supervised practice in a public school library. May be taken concurrently with practice teaching. Prerequisite: LCS 411, 421, 449, 461, 491.

482-1 to 12 Library/Media Practicum in the Secondary School
Supervised practicum in a public school library. Formal application must be made through the office of the director of laboratory experiences in education during the first two weeks of the quarter prior to enrollment. Prerequisite: LCS 411, 421, 449, 461, 491.

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.

486-3 Applications of Computers in Education
Explores types of educational software and its applications, software evaluation, curriculum development, and lesson planning integrating computer courseware.

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.

491-3 Organization and Administration of School Media Centers
Administration practices and services that relate to the school library media center. Considers problems pertaining to standards, legislation, personnel, planning facilities, materials, instruction, and management procedures.

Linguistics/LI

399-1 to 4 Studies in Selected Subjects
Deals with problems, approaches, and topics in the field of linguistics. Topics vary.
218 Courses/Linguistics

471-4 Introduction to Historical and Comparative Linguistics
(Listed jointly with Department of Modern Languages; see FR 471, GER 471, RUS 471, and SPN 471.) Principles of historical and comparative study of languages: introduction to Indo-European, Germanic, Romance, and Slavic philology.

Management/MGT

100-3 The World of Business and Administration
Introduction to American business and its environment. (Previously listed as ADM 101.)

200-3 Elements of Administration and Supervision
Provides students in various disciplines with an understanding of administrative processes and problems while developing practical skills to increase effectiveness in administrative matters. Topics include the role and functions of the administrator, organizational dynamics, leadership, supervision, motivation, decision making and problem solving, group dynamics, goals, objectives, integration of interests in organizations, and social issues in administration.

All of the following courses require junior standing in addition to the listed prerequisites.

301-3 Principles of Management
General nature and functions of organization and management in society, embodying underlying trends. Prerequisite: ACC 203; EC 202, 203.

302-3 Introduction to Organizational Behavior
Development of an understanding of behavior within a modern organization. Interrelationships of the individual, informal and formal groups. Prerequisite: MGT 301.

306-3 Introduction to Production Systems
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: MGT 301, MS 203, MTH 228. (Previously listed as MGT 303.)

310-3 Human Resources Development
Knowledge, skills, and techniques for developing employees and self in various settings. Skills include listening, training, goal-setting, motivating, counseling, teamwork, managing time, resolving conflicts, handling stress, career planning, and self-management. Prerequisite: MGT 302.

411-3 Concepts and Techniques of Supervision
Focus on the concepts and techniques of effective supervision as they relate to productivity and achievement of organizational and personal objectives. Prerequisite: MGT 302.

412-3 Management-Union Relations
Analysis of bargaining requirements and methods, agreement development and administration, and trends in collective bargaining. Prerequisite: MGT 302.

415-3 Labor-Management Relations in Government
Analytical study of the development of collective bargaining at all levels of government: topical areas include history, present environment, union structure, law, approaches to negotiation, tactics, and trends. Prerequisite: MGT 421 or permission of instructor.

421-3 The Personnel Function
Analysis of the human resources system, interrelationship of policy areas such as staffing, development, and utilization. Prerequisite: MGT 302.

422-3 Compensation Administration
Analysis of job evaluation, job design, wage and salary administration, and similar topics as related to personnel objectives. Prerequisite: MGT 421.

423-3 Seminar in Personnel Management
Research, analysis, and discussion of contemporary issues involving the management of personnel. Prerequisite: MGT 421.

435-3 Quality Control
Concepts, objectives, and application of management of quality in production systems. Emphasis on techniques and methods used to control operating processes and incoming and outgoing quality levels. Prerequisite: MGT 306, MS 203, MTH 228. (Previously listed as MGT 431.)

437-3 Production and Inventory Control
Advanced course in techniques for production and inventory management. Major topics include forecasting, inventory management systems, and material requirements planning (MRP). Prerequisite: MGT 306, MS 203, MTH 228. (Previously listed as MGT 432.)

439-3 Industrial and Institutional Purchasing
Lectures and case studies relating to materials management. Emphasis on purchasing, receiving, storing, and inventory control; value analysis and specialized problems in institutional procurement. Prerequisite: MGT 301. (Previously listed as MGT 433.)

455-3 Noncognitive Skills for Managing
Examining and developing intuitive thinking and behavior. Addresses self-understanding, creative thinking, archetypal cultural influences, conditions affecting intuition; noncognitive experiences such as nonverbal and ulterior behavior, dreams, and hunches in managerial and personal decision context. Prerequisite: MGT 302.

477-1 to 3 Special Studies in Management
Reading or research in a selected field of management. Topics vary.
478-3 Honors: Independent Study in Management
Research in management for fulfillment of the Honors Program project requirement.

480-1 to 4 Special Topics in Management
Topics as listed: 480-A, Small Business Consulting; 480-B, Topics in Operations 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; 480-G, Contract Negotiation. (Previously listed as MGT 434.)

491-3 Public Policy in the Business Environment
Relationship between business and government; the business environment and public policy, the corporate role in American society, business social responsibility. Prerequisite: PHL 371. (Previously listed as MGT 482.)

492-4 Business Policy and Administration
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 for simulation gaming and case analyses. Prerequisite: MGT 491. (Previously listed as MGT 481.)

Management Information Systems/MIS

100-3 Introduction to Data Processing
Data processing fundamentals and terminology pertinent to programming business systems. Students are required to write and test programs. (Previously listed as AIS 103.)

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. 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 which describe planning, process and data flow, data structure, and documentation techniques. Information gathering is explored. Prerequisite: CS 142, 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 Systems Development: The Information Center Approach
Stresses modular programming techniques and information center methods for building systems. Prototyping fourth-generation languages and data-base systems discussed and used. Prerequisite: MIS 322.

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, MIS 321.

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, CS 405.

Management Science/MS

201-3 Introduction to Data Analysis
Statistical methods used in analysis of business problems. Theory and application of frequency distributions: measures of location; variation and further descriptions. Introduction to probability; expectations; theoretical probability distributions; sampling and sampling distributions. Prerequisite: MTH 127. (Previously listed as QBA 201.)

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. (Previously listed as QBA 202.)

203-3 Analytical Problem Solving
Use of analytical techniques to aid in problem solving. Techniques may include linear, goal, and dynamic programming models, and classical optimization. Prerequisite: MTH 228, MS 202. (Previously listed as QBA 303.)

Advanced Courses
All of the following courses require junior standing in addition to the listed prerequisites.

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 which uses these methodologies is required. Prerequisite: MS 203.
Courses/Management Science

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. (Previously listed as QBA 431.)

341-3 Probabilistic Models
Use of probability in modeling basic decision-making situations. Applications in the areas of queueing, simulation decision analysis, and Markov chains. Basic probability is reviewed. Prerequisite: MS 202, MTH 228. (Previously listed as QBA 304.)

342-3 Advanced Probabilistic Models
Designed to strengthen students' ability to formulate problems in mathematical terms and to solve resulting model using analytic techniques. Topics include probabilistic inventory models, game theory, Markovian decision processes, and reliability. Prerequisite: MTH 228, MS 341, or permission of instructor. (Previously listed as QBA 441.)

430-3 Advanced Quantitative Methods
Linear bivariate and multivariate regression, correlation analysis described with associate models and computer applications. Prerequisite: MS 203 or permission of instructor. (Previously listed as QBA 430.)

440-3 Deterministic Models of Operations Research
Designed to strengthen students' ability to formulate problems in mathematical terms and to solve resulting model using analytic techniques. Classical optimization and advanced applications of linear, integer, and dynamic programming are discussed. Prerequisite: MS 203. (Previously listed as QBA 440.)

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 instructor permission. (Previously listed as QBA 452.)

460-3 Introduction to Logistics Systems Design
Examination of the major engineering and management techniques involved in the design, fielding, operation, and phase-out of equipment systems. The impact of maintainability, availability, and reliability on system costs is also covered. Prerequisite: MS 202, MGT 306, MTH 228.

477-1 to 4 Special Studies in Management Science
Topics vary. (Previously listed as QBA 477.)

478-3 Honors: Independent Study in Management Science
Research in management science for fulfillment of the Honors Program project requirement. (Previously listed as QBA 478.)

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. (Previously listed as QBA 481.)

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. (Previously listed as QBA 491.)

Marketing/MKT
All of the following courses require junior standing in addition to the listed prerequisites.

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
The 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, 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.

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.
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 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 function in modern organizations with emphasis on technique, procedure, concept, and theory applications to real and simulated product management problems. Prerequisite: MKT 301, 302.

418-3 Price Management
Critical study and extensive application of existing and developing pricing techniques, procedures, concepts, and theories to simulated and real price management problems. Prerequisite: MKT 301, 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.

431-3 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
Concepts and techniques of how to start your own business. Development of a business plan to encompass opportunity assessment, market analysis, financing, staffing, production, tax accounting, and legal, insurance, and marketing aspects. Prerequisite: MKT 302.

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 301.

451-3 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, 303; 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.

471-3 Industrial Marketing
Nature, evolution, and functions of industrial marketing and wholesaling operations; market structure, pricing, promotion, government, economics, and ethical aspects. Prerequisite: MKT 302.

475-3 Entrepreneurship
How to start your own business. Concepts and techniques of planning to initiate or purchase a company. Students develop a written business plan for a new venture. Prerequisite: MKT 302, LAW 350, FIN 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, forecasting, and entrepreneurship. 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

General Education Course
105-3 Mathematics and the Modern World
Application of mathematical tools to real world problems to demonstrate the mathematical methodologies of modeling problems and predicting outcomes or solutions. Prerequisite: MTH 102 or at least Level 3 on the math placement test. Substitutions: MTH 132 and 133 or STT 164 and 265.

Departmental Courses
102-3 Elementary Algebra
Programmed beginning algebra. Sets, counting numbers, integers, rational numbers, equations in two variables, polynomials, factoring, fractions, fractional and quadratic equations. At least Level 2 on math placement test and departmental approval required.

105-3 Mathematics and the Modern World
Application of mathematical tools to real world problems to demonstrate the mathematical methodologies of modeling problems and predicting outcomes or solutions. Prerequisite: MTH 102 or at least Level 3 on the math placement test.

127-3 Intermediate Algebra
Real numbers and algebraic expressions, factoring, algebraic functions, graphs of lines, quadratic equations, radicals, principle roots, laws of exponents, rational exponents. Prerequisite: MTH 102 or equivalent or at least Level 3 on math placement test.

128-5 Algebra for College Students
Best suited to 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 127 or equivalent or at least Level 4 on math placement test.

129-3 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 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. Prerequisite: MTH 128 or 129 or equivalent or at least Level 5 on math placement test.

131-3 Trigonometry
Trigonometric and inverse trigonometric functions. Prerequisite: MTH 128 or 129 or equivalent or at least Level 5 on math placement test.

132-5 Calculus I
Conic sections, functions, limits, continuity, the derivative, derivatives of algebraic and trigonometric functions, and applications of the derivative. Prerequisite: MTH 130, 131; or equivalent or Level 7 on math placement test.

133-5 Calculus II

200-3 Accelerated Calculus I
This course and MTH 300 cover the material of MTH 132, 133, 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. Prerequisite: MTH 128 or 129 or equivalent or at least Level 5 on math placement test.

231-5 Calculus III
Applications of the definite integral, polar coordinates, and parametric equations. Infinite series, power series, vector algebra in the plane and space. Prerequisite: MTH 133.
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.

243-3 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. Prerequisite: MTH 105.

244-3 Fundamental Mathematical Concepts II
Overview of mathematical topics covered in grades K-8 from a perspective appropriate to a prospective teacher. Covers decimals, introductory geometry, constructions, congruence and similarity, and concepts of measurement. For elementary education majors only. 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 133 or equivalent.

257-3 Discrete Mathematics for Computing
Discrete mathematics useful in computing: elementary logic and set theory, induction, binary relations and trees, and asymptotic behavior of functions. Prerequisite: MTH 133, CS 142.

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.

300-3 Accelerated Calculus II
Continuation of MTH 200. Graded pass/unsatisfactory. Prerequisite: MTH 200.

304-4 Mathematics as a Human Activity
Shows nonscience students some of the applications and uses of mathematics.

306-3 Mathematical Modeling
Structure and properties of mathematical models. Size effects, dimensional analysis, graphical methods, comparative statics, stability, optimization techniques, probabilistic models, and Monte Carlo simulation. Completion of two quarters of calculus required.

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, 253 or 355, CS 142 or 210; for 317, MTH 233, 316.

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. 3 hours lecture, 1 hour lab.

355-5 Matrix Algebra
Matrices, systems of equations, vector spaces, inner products, linear transformations, determinants, eigenvalues, eigenvectors, quadratic forms, and symmetric matrices. Prerequisite: MTH 231.

399-1 to 5 Selected Topics
Selected topics in mathematics.

407-3 Optimization Techniques

410-4 Theoretical Foundations of Computing
(Listed jointly with Department of Computer Science; see CS 410.) Examines the limitations of algorithmic processes in problem solving. Approaches presented: Turing machines, Markov algorithms, recursive functions, and the methods of Kleene and Post. Other topics include Church's hypothesis as well as the halting problem and related decision problems. Prerequisite: Completion of one 300-level mathematics or statistics course and CS 400; or a 400-level mathematics course and CS 142; or CS 433 and CEG 320.
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423-3 to 4 Advanced Logic
(Listed jointly with Department of Philosophy; see PHL 423.) Treats logic as an object rather than a subject. Contains extensions to higher order logic, but emphasizes the use of logic and the limitations of logical systems. Topics vary. Prerequisite: PHL 123, 323, or one of these plus one math course beyond calculus or permission of instructor.

431-3 Real Variables I
Functions, sequences, limits, continuity, differentiability, integration, and mean-value theorems. Prerequisite: MTH 280.

432-3 Real Variables II
Finite 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, 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, topology, modern analysis. Prerequisite: MTH 231, 451, 471.

450-3 Discrete Algebraic Structures
Introduction to several abstract algebraic structures and their models which are used in computer science. Examples include semigroups and finite-state machines, and groups and codes. Prerequisite: MTH 253 or 355 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
(Listed jointly with Department of Computer Science; see 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, CS 142.

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; conics. Prerequisite: MTH 231.

474-3 Calculus on Manifolds
Rapid treatment of those topics in analysis and topology necessary to develop the notions of manifold, Gaussian and Riemannian sectional curvature. Prerequisite: MTH 232 or equivalent.

475-4 Differential Geometry
Calculus on Euclidean space frame fields, calculus on a surface, shape operators, geometry of surfaces in Euclidean 3 space. Prerequisite: MTH 232.

476-4 Computer Graphics I
(Listed jointly with Department of Computer Engineering; see CEG 476.) Principles of computer graphics: representation of two- and three-dimensional space on a display; data compression; hidden surface problems. Computer graphics systems: displays; input; graphic software packages; and real time applications. Prerequisite: MTH 253, CS 400, or permission of instructor.

477-4 Computer Graphics II
(Listed jointly with Department of Computer Engineering; see 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.

480-1 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 355.

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, 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
The 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.

492-1 to 5 Undergraduate Seminar

499-1 to 5 Selected Topics
Selected topics in mathematics.

Mechanical Systems Engineering/MSE

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. (Previously listed as EGR 212.)

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: MSE 212, PHY 240. (Previously listed as EGR 213.)

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: MSE 212, PHY 240. (Previously listed as EGR 313.)

315-4 Thermodynamics I
Classical thermodynamics with applications of the first and second laws to engineering systems. Prerequisite: PHY 241. (Previously listed as EGR 315.)

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: MSE 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: MSE 315. (Previously listed as EGR 317.)

318-4 Heat Transfer
Principles that govern heat transfer in solids, in fluids, in vacuum, and at interfaces of solids and fluids. Laboratory experiments to illustrate these phenomena. 3 hours lecture, 2 hours lab. Prerequisite: MSE 317. (Previously listed as EGR 318.)

360-4 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: MSE 213, ESE 322. (Previously listed as EGR 360.)

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 242.

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: MSE 313, 370.

375-3 Physical Metallurgy I: Metallurgical Thermodynamics
Application of classical thermodynamics to metals and alloys. Free energy concepts; thermodynamic fundamentals of phase equilibria; and single phase and multi-phase alloy systems. Prerequisite: MSE 370. Prerequisite or corequisite: MSE 315. (Previously listed as EGR 375.)

376-3 Physical Metallurgy II: Transformations in Metals
Fundamentals of phase transformations in metals and alloys. Applications to recovery and recrystallization, solidification, heat treatment of steel, and precipitation hardening. Prerequisite: MSE 375. (Previously listed as EGR 376.)

385-2 Metallography Laboratory
Preparation of metallographic specimens; use of the metallurgical microscope including the preparation of photomicrographs. Prerequisite: MSE 370. (Previously listed as EGR 385.)

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: MSE 375, 385. (Previously listed as EGR 386.)

403-4.5 Measurement Systems
General concepts of measurement instrumentation of physical quantities and specific measuring devices for motion, force, torque, pressure, sound, flow, and temperature measurement. 3 hours lecture, 3 hours lab. Prerequisite: ESE 322 or permission of instructor. (Previously listed as EGR 403.)

407-3 Optimization Techniques
(Listed jointly with Departments of Computer Science and Mathematics and Statistics; see CEG 407, MTH 407.) Concepts of minima and maxima; linear programming: simplex method, sensitivity, and duality; transportation and assignment problems; and dynamic programming. Prerequisite: MTH 233, 253, or permission of instructor. (Previously listed as EGR 407.)
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411-4 Advanced Dynamics
Kinematics of a particle in three dimensions for various coordinate systems, fixed and moving. Dynamics of a particle and system of particles including work-energy and impulse-momentum. Kinematics of general rigid body motion. Principal axes of inertia. Eulerian angles. Dynamics of general rigid body motion. Lagrangian equations. Prerequisite: MSE 213. (Previously listed as EGR 411.)

412-4 Introduction to 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: MSE 313, CS 210, MTH 233. (Previously listed as EGR 412.)

414-4 Mechanical Design I
Fundamental concepts in design for static strength, fatigue, and impact loading; application to selected mechanical components and systems. Prerequisite: MSE 313, 371. (Previously listed as EGR 414.)

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: MSE 414. (Previously listed as EGR 415.)

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: MSE 318. (Previously listed as EGR 417.)

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: MSE 318. (Previously listed as EGR 418.)

423-4 Energy Conversion
Important new developments in energy conversion. Thermoelectric, photoelectric, thermionic, and electromechanical systems are studied. Prerequisite: MSE 315. (Previously listed as EGR 423.)

456-4 Introduction to Robotics
(Listed jointly with Department of Computer Engineering; see CEG 456.) Introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, kinematic equations, trajectory planning, dynamics, control, programming, and computer vision. Prerequisite: MTH 233. (Previously listed as EGR 456.)

471-3 Introduction to Flight Control Systems

477-4 Mechanical Behavior of Materials
Crystal plasticity and single crystal behavior. Introduction to dislocation theory. Strengthening mechanisms and polycrystalline behavior. Introduction to viscoelasticity. Fracture, fatigue, and creep of materials. Prerequisite: MSE 313, 370. (Previously listed as EGR 477.)

478-3 X-Ray Spectral Analysis
(Listed jointly with Department of Geological Sciences; see GL 474.) 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: MSE 482 or permission of instructor. (Previously listed as EGR 478.)

479-4 Materials Corrosion
(Listed jointly with Department of Chemistry; see CHM 479.) Survey of principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included. Prerequisite: MSE 315, 370; or corequisite CHM 453; or permission of instructor. (Previously listed as EGR 479.)

481-3 Nondestructive Testing
Survey of the principal techniques used to detect and evaluate flaws in material components such as castings, weldments, and composites. Includes liquid penetrant, ultrasonic, radiographic, eddy current, and magnetic test methods. Prerequisite: MSE 370. (Previously listed as EGR 481.)

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: MSE 376 or permission of instructor. (Previously listed as EGR 482.)

483-3 Ceramics and Refractories
Introduction to ceramic materials that includes descriptions of ceramic raw materials, glasses, solid state chemistry, microstructures, elasticity and strength, and thermal stresses. Prerequisite: MSE 375. (Previously listed as EGR 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: MSE 375. (Previously listed as EGR 485.)
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: MSE 313, 370. (Previously listed as EGR 486.)

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: MSE 370. (Previously listed as EGR 487.)

488-4 Powder Processing
Production, characterization, and processing of powder metals and ceramics. Mechanisms of sintering and hot compaction. Hot forming of powder compacts. Prerequisite: MSE 375. (Previously listed as EGR 488.)

489-4 Engineering Plastics: Materials, Processes, and Design
(Listed jointly with Department of Chemistry; see 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. (Previously listed as EGR 489.)

490-4, 491-4 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. (Previously listed as EGR 490, 491.)

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. (Previously listed as EGR 492.)

499-1 to 5 Special Problems in Engineering
Special problems in advanced engineering topics. Topics vary. (Previously listed as EGR 499.)

Medical Technology/MT
Enrollment in the following courses is limited to medical technology interns.

434-3 Introduction to Clinical Laboratory Science
(Listed jointly with Department of Biological Sciences; see BIO 434.) Introduction to procedures and techniques related to clinical laboratory function.

435-2 Advanced Clinical Laboratory Science
(Listed jointly with Department of Biological Sciences; see BIO 435.) Study of advanced methodology and instrumentation, which may include computer applications, data management, research data collection, and statistical analysis.

436-5 Diagnostic Microbiology
(Listed jointly with Department of Biological Sciences; see BIO 436.) Application of microbiological principles to diagnosis, infection, and resistance.

437-5 Methods of Diagnostic Microbiology
(Listed jointly with Department of Biological Sciences; see BIO 437.) Laboratory experiments in diagnostic microbiology. Corequisite: MT 436.

438-5 Clinical Chemistry
(Listed jointly with Department of Biological Sciences; see BIO 438.) Application of principles of biochemistry to the human in health and disease.

439-5 Clinical Laboratory: Biochemistry
(Listed jointly with Department of Biological Sciences; see BIO 439.) Laboratory course using current clinical chemistry techniques for the analysis of human tissues and fluids.

440-4 Body Fluid Analysis
(Listed jointly with Department of Biological Sciences; see BIO 440.) 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
(Listed jointly with Department of Biological Sciences; see BIO 442.) Study of hematopoiesis, blood cell cytology, and clotting mechanisms of human blood.

443-4 Hematology Laboratory
(Listed jointly with Department of Biological Sciences; see BIO 443.) Laboratory study of cellular elements of blood and hemostasis. Corequisite: MT 442.

444-3 Immunohematology
(Listed jointly with Department of Biological Sciences; see BIO 444.) Immunology and genetics of human blood groups and types.

445-3 Immunohematology Laboratory
(Listed jointly with Department of Biological Sciences; see BIO 445.) Study of immunology as applied to human blood isoantigens and isoantibodies. Corequisite: MT 444.

446-2 Immunology
(Listed jointly with Department of Biological Sciences; see BIO 446.) Study of antigens and antibodies with emphasis on in vivo and in vitro reactions.

447-3 Laboratory Immunology: Serology
(Listed jointly with Department of Biological Sciences; see BIO 447.) Study of detection and measurement of antigens or antibodies using in vitro systems.
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448-2 Clinical Pathology Correlation
(Listed jointly with Department of Biological Sciences, see BIO 448.) Correlation of clinical laboratory findings with different human physiological states.

449-2 Clinical Pathology Seminar
(Listed jointly with Department of Biological Sciences, see BIO 449.) 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/MIL

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: CHM 101 or 102.

426-3 Immunology and Basic Virology
Study of the fundamentals of immunobiology and basic virology, emphasis on the regulatory and cellular level of host immune responses against microbial pathogens as well as mechanisms of immunopathology, and on the characteristics and molecular biology of virus pathogens. Prerequisite: BIO 202, CHM 216, or departmental approval.

427-3 Pathogenic Microbiology
Study of microorganisms pathogenic for humans and animals using the organ system approach with emphasis on mechanisms of pathogenesis and host resistance. Prerequisite: M&I 426, BIO 202 or 402, CHM 216, or departmental approval.

428-3 Principles of Laboratory Medical Microbiology and Immunology

431-3 Basic Virology
Introduction to the field of virology: plant, animal, and bacterial viruses. Emphasis on the intrinsic properties of viruses and their interaction with cells, multiplication, genetics, and tumor induction. Prerequisite: BCH 421, BIO 402, or permission of instructor.

445-5 Immunobiology
Study of biology of the immune system in terms of current concepts of antibody formation and function. Acquired, delayed, and immediate hypersensitivities are studied with respect to immunological deficiencies, malignancy, tolerance, graft rejection, infection, and acquired resistance. 4 hours lecture, 1 hour recitation. Prerequisite: M&I 426, BIO 402, or permission of instructor.

488-1 to 4 Independent Reading

499-1 to 4 Special Problems in Microbiology

Military Science/MIL

111-1 Leadership I
Introduction to leadership, emphasizing fundamentals and principles of leadership, characteristics of a group, and traits of a leader.

112-1 Leadership II
Analysis of leadership theories and management tasks, including analysis of organizational structures, planning and organizing, and controlling rewards and punishments. Extensive use of case studies in leadership and management.

113-1 Introduction to Military Science
Introduction to customs, courtesies, doctrine, and organization of the U.S. Army, and policies affecting deployment of land forces.

211-2 Squad Tactics
Analysis of the light infantry squad's weapons and employment and the leader's role in directing and controlling small units in the execution of offensive and defensive tactical missions. 2 hours lecture, 1 hour lab.

212-2 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.
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.

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.

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.

Study of selected areas of film history. Titles vary.

Courses offered under this title provide 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.

Courses offered under this title provide an intensive study of selected areas of film history. Titles vary.

Courses offered under this title provide an intensive study of selected areas of film genre (e.g., the western, the musical, and the gangster film). Titles vary.

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.

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 263; for 382, TH 381; for 383, TH 382.
230 Courses/Motion Pictures

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
Courses offered under this title provide 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.

499-1 to 4 Independent Study in Film History, Theory, Criticism, and Practice
Independent work to culminate in a thesis and/or film. Prerequisite: TH 332, 333.

Music/MUS

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

Applied Music
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:

100-1, 2, or 4 Piano
110-1, 2, or 4 Voice
120-1, 2, or 4 Clarinet
130-1, 2, or 4 Flute
140-1, 2, or 4 Trumpet
150-1, 2, or 4 Trombone
160-1, 2, or 4 Organ
170-1, 2, or 4 French Horn
180-1, 2, or 4 Violin
190-1, 2, or 4 Viola
200-1, 2, or 4 Cello
210-1, 2, or 4 String Bass
220-1, 2, or 4 Oboe
230-1, 2, or 4 Bassoon
240-1, 2, or 4 Saxophone
250-1, 2, or 4 Baritone Horn
260-1, 2, or 4 Tuba

270-1, 2, or 4 Percussion
280-1, 2, or 4 Harpsichord
290-1, 2, or 4 Classical Guitar
300-1 to 2 Viola da Gamba

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.

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.

255-1, 256-1, 257-1 Keyboard Musicianship
Class instruction in functional keyboard skills. Continuation of MUS 157.

261-2, 262-2, 263-2 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.

316-3 Piano Pedagogy I
Overview of the teaching/learning process. Study of basic teaching competencies (e.g., sequencing instruction, questioning skills), and of the application of these competencies in piano teaching. Prerequisite: MUS 103, 122, and 153 or permission of instructor. (Previously listed as MUS 447.)

317-3 Piano Pedagogy II
Study of methods and materials for use with young, average-age, and older students during their first years of piano study. Observation of teaching. Peer-teaching experience. Prerequisite: MUS 316 or permission of instructor. (Previously listed as MUS 448.)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>318-3</td>
<td>Piano Pedagogy III</td>
<td>Investigation of individual and group procedures for teaching rhythm, music reading, pianistic technique, elementary improvisation, and artistic expression. Ways of working with transfer students and intermediate level precollege students. Continued observation and peer teaching. Prerequisite: MUS 317 or permission of instructor. (Previously listed as MUS 449.)</td>
</tr>
<tr>
<td>416-3</td>
<td>Practicum in Piano Pedagogy I</td>
<td>Supervised teaching of elementary-level piano students accompanied by a problem-solving seminar to help students react constructively to day-to-day teaching experiences. Analysis of tapes of piano teaching. Prerequisite: MUS 318 or permission of instructor.</td>
</tr>
<tr>
<td>417-3</td>
<td>Practicum in Piano Pedagogy II</td>
<td>Supervised teaching of elementary or intermediate piano students accompanied by a problem-solving seminar to help students react constructively to day-to-day teaching experiences. Discussion of business aspects of piano teaching. Prerequisite: MUS 318 or permission of instructor.</td>
</tr>
<tr>
<td>418-3</td>
<td>Practicum in Piano Pedagogy III</td>
<td>Supervised teaching of young, average-age, or older piano students accompanied by a problem-solving seminar to help students react constructively to day-to-day teaching experiences. Development of a personal philosophy of education and teaching. Prerequisite: MUS 318 or permission of instructor.</td>
</tr>
<tr>
<td>420-3</td>
<td>Opera Production and Coaching</td>
<td>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.</td>
</tr>
</tbody>
</table>

**Ensembles**

Wright State staff and students not majoring in music may enroll with or without credit. Enrollment open to all students in the university.

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>105-1</td>
<td>University Chorus</td>
<td>Audition required.</td>
</tr>
<tr>
<td>115-1</td>
<td>University Band</td>
<td></td>
</tr>
<tr>
<td>125-1</td>
<td>University Jazz Ensemble</td>
<td>Audition required.</td>
</tr>
<tr>
<td>135-1</td>
<td>University Orchestra</td>
<td></td>
</tr>
<tr>
<td>175-1</td>
<td>University Women's Glee Club</td>
<td></td>
</tr>
<tr>
<td>185-1</td>
<td>University Men's Glee Club</td>
<td></td>
</tr>
<tr>
<td>195-1</td>
<td>University Chamber Singers</td>
<td>Audition required.</td>
</tr>
<tr>
<td>205-1</td>
<td>Chamber Music</td>
<td>Audition required.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Course Code</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>235-1</td>
<td>University Brass Choir</td>
<td>Audition required.</td>
</tr>
<tr>
<td>245-1</td>
<td>Collegium Musicum</td>
<td>Collegium musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music that was written before 1750. One period (medieval, Renaissance, or baroque) is emphasized each quarter. Prerequisite: MUS 121, 151, or audition.</td>
</tr>
<tr>
<td>265-1</td>
<td>Vocal Jazz Ensemble</td>
<td>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.</td>
</tr>
<tr>
<td>275-1</td>
<td>Chamber Orchestra</td>
<td>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.</td>
</tr>
</tbody>
</table>

**Theory of Music**

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>101-3, 102-3, 103-3</td>
<td>Theory of Music</td>
<td>Theoretical study of music including written exercises, form and analysis, and harmony. Corequisite: MUS 151, 152, 153.</td>
</tr>
<tr>
<td>116-1</td>
<td>Introduction to the Theory of Music</td>
<td>Remedial course for first-year music majors.</td>
</tr>
<tr>
<td>151-1, 152-1, 153-1</td>
<td>Sight Singing and Dictation</td>
<td></td>
</tr>
<tr>
<td>251-1, 252-1, 253-1</td>
<td>Sight Singing and Dictation</td>
<td>Continuation of MUS 151, 152, 153. Prerequisite: MUS 103, 153. Corequisite: MUS 201, 202, 203.</td>
</tr>
<tr>
<td>301-3</td>
<td>Baroque Counterpoint</td>
<td>Prerequisite: MUS 203, 253.</td>
</tr>
<tr>
<td>302-3</td>
<td>Renaissance Counterpoint</td>
<td>Prerequisite: MUS 203, 253.</td>
</tr>
<tr>
<td>303-3</td>
<td>Twentieth-Century Counterpoint</td>
<td>Prerequisite: MUS 203, 253.</td>
</tr>
<tr>
<td>351-1, 352-1, 353-1</td>
<td>Advanced Sight Singing and Dictation</td>
<td>Prerequisite: MUS 202, 253.</td>
</tr>
<tr>
<td>371-3, 372-3, 373-3</td>
<td>Composition</td>
<td>Creative writing in smaller forms for a variety of media. Includes the exploration of various composition styles. Prerequisite: for 371, MUS 203.</td>
</tr>
<tr>
<td>381-3, 382-3, 383-3</td>
<td>Electronic Music Composition</td>
<td>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.</td>
</tr>
</tbody>
</table>
Courses/Music

401-3 Form and Analysis
Harmonic and formal analysis: motive, phrase, periods, 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 twentieth-century music. Prerequisite: MUS 203, 253, 313.

401-2, 402-2, 403-2 Orchestration
Tone quality and ranges of orchestral instruments; voice qualities and ranges of choral ensembles; written assignments in each area. Prerequisite: MUS 203, 253.

404-3 History of Music Theory
Survey of music theory from Jean Philippe Rameau to the present. Traces lines of thought which have had significant influence on musical study in the twentieth century. Prerequisite: MUS 203, 313.

425-3 Senior Theory Seminar
In-depth study of selected topics in music theory. Course requires individual faculty-directed projects, culminating in a class presentation and a research paper. Prerequisite: MUS 403.

471-3, 472-3, 473-3 Advanced Composition
Creative writing which 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 nonwestern 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 twentieth 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 from 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.

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: Nineteenth 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: Twentieth 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 twentieth century.

455-2, 456-2, 457-2 Vocal Literature
Survey of vocal literature from the eighteenth through the twentieth century, emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 313.

Music Education

145-1, 146-1 Voice Class

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 Ensemble
Choral and ensemble literature. Materials, techniques, curriculum. Prerequisite: MUS 203, 253.

323-3 Methods in Music: School Bands and Ensembles
Administration, techniques, materials, problems; class instruction in the public school. Prerequisite: MUS 203, 253.

324-3 Methods in Music: School Orchestras and Ensembles
Administration, techniques, problems, class instruction in the public school. Prerequisite: MUS 203.
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.

Music in the Junior High School
Materials, techniques, general music program, curriculum, changing voice. Reading components and teaching strategies included. Prerequisite: MUS 203, 253.

Conducting (Choral and Instrumental)
Basic baton technique for choral and instrumental conducting. Choral score and instrumental score reading. Completion of two quarters of laboratory ensemble required. Prerequisite: MUS 122, 203, 253.

Advanced Choral Conducting
Continuation of MUS 335. Emphasis on rehearsal techniques, comprehensive musicianship, and performance practices. For music majors only. Completion of choral laboratory ensemble required. Prerequisite: MUS 335.

Advanced Instrumental Conducting
Continuation of MUS 335. Emphasis on rehearsal techniques, comprehensive musicianship, and performance practices. For music majors only. Completion of instrumental laboratory ensemble required. Prerequisite: MUS 335.

Introduction to Music Education for the Special Learner
Materials, techniques, curriculum for teaching music to the special learner in public/private school music programs. Prerequisite: MUS 122, 203, 253; or 365 and permission of instructor.

Seminar in Music Education for the Special Learner
Planning, implementing, and evaluating music-teaching techniques with special learners. Participation experiences with groups of special learners. Prerequisite: MUS 365 and permission of instructor; or MUS 435 (MUS 435 may be taken concurrently).

Practicum in Music Education for the Special Learner
Supervised teaching experience with special learners. Emphasis on sequential musical activities that meet each student's needs. Prerequisite: MUS 365 and permission of instructor; or MUS 436 (MUS 436 may be taken concurrently).

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 nineteenth 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.

165-3 Fundamentals of Music for the Classroom Teacher
Functional music emphasizing keyboard, recorder, and sightsinging. For elementary education majors only.

365-4 Music in the First Six Grades
Methods and materials for teaching elementary general music. For elementary education majors only. Prerequisite: MUS 165.

Special Studies in Music
399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of music. Topics vary.

480-1 to 4 Workshops in Music
Study of selected special topics or problems in music, or special areas of music teaching. Titles vary.

Nursing/NUR
All of the following courses require admission to the School of Nursing. Course levels must be taken in sequence.

114-2 Nursing Elective
Special topics.

205-3 The Health Care System: Its Impact on Professional Nursing
Introductory course oriented toward the role and function of the professional nurse within the health care system as influenced by social forces.

211-4 Scientific and Nursing Concepts and Theories
Concepts and theories from the arts, sciences, and nursing are discussed in terms of their significance to the practice of professional nursing. The integration and synthesis of various theories, as well as an orientation to the program's philosophy and conceptual framework, are included. Prerequisite: ANT 201, 202; BIO 112; CHM 101, 102; ENG 101, 102; M&I 220; P&B 301, 302; PSY 111, 112; SOC 201, 202. Prerequisite or corequisite: NUR 205.

215-3 Conceptual Bases of Practice
Introduces students to selected concepts essential to professional nursing, including essential terminology and the relationship of the concept to the practice of professional nursing.
216-3 Professional and Theoretical Basis of Practice
Introduces students to the historical development of professional nursing. Theoretical base of nursing within the health care system is discussed in terms of past, present, and future trends and roles.

217-5 Nursing Process I—Nursing Assessment to Nursing Diagnosis
Introduces the nursing process from assessment to diagnosis. Focus is on biological, psychological, sociological, and spiritual components of client assessment leading to a nursing diagnosis of a healthy individual. Prerequisite: NUR 215, 216.

218-5 Nursing Process II
Completes the nursing process emphasizing planning, implementation, and evaluation. Focus is on teaching basic skills and related concepts underpinning clinical nursing practice. For nursing majors only. Prerequisite: NUR 217.

304-3 Foundations of Nursing Research
Basic elements of the research process, including aspects of statistics. Emphasis on the relation of research findings to professional nursing practice and the nursing process. Prerequisite: NUR 218.

308-5 Introduction to Professional Nursing
Introductory course oriented toward the role and function of the professional nurse. Emphasis is on concepts and theories within the sciences, humanities, and nursing which relate to the practice of professional nursing. For registered nurses only.

309-6 Nursing Process: Optimum Health
Clinical nursing course. Focuses on the ability of individuals and families to adapt to their environment in relation to their optimum state of health. Nursing process is the foundation of the course. For registered nurses only. Prerequisite: NUR 308, BCH 340, SOC 360.

310-4 Nursing Process: Impaired Health
Nonclinical nursing course. A conceptual approach to understanding reactions to impaired health throughout the lifespan. For registered nurses only. Prerequisite: NUR 309.

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: NUR 211.

314-3 Nursing for Wellness Lifestyle
Presents an integrated process for promoting health and wellness in a variety of settings and populations. Focus is on self-assessment, self-care, and self-direction. Prerequisite: NUR 215, 216, 217, 218 (NUR 218 may be taken concurrently).

317-2 to 4 Selected Topics
Topics vary.

411-10, 412-10, 413-10 Nursing Process: Human Existence and Health IV, V, VI
Clinical nursing courses oriented toward health potential and the practice of professional nursing. Social forces which affect the health care system are discussed in relation to their impact on professional nursing. Emphasis on independent practice and interdisciplinary activities in any environment where there is a client or patient. Prerequisite: NUR 313.

414-3 Nursing Elective
Topics vary. Prerequisite: NUR 313.

415-3 Independent Study
May be taken for letter grade or pass/unsatisfactory. Prerequisite: NUR 313.

498-3 Nursing Honors Seminar
Students discuss selected problems, issues, and special topics related to nursing which 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, 312.

499-2 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

201-3 Beginning Shorthand
Development of a vocabulary/writing skill in Gregg Series 90 shorthand.

202-3 Intermediate Shorthand
Continued vocabulary and writing skill development in Gregg Series 90 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 and speed building in Gregg Series 90 shorthand. Introduction to transcription. Prerequisite: OA 202 or equivalent proficiency and permission of adviser.

210-3 Keyboarding
Basic keyboarding instruction in touch typewriting on an alphanumeric keyboard.

211-3 Beginning Typewriting
Mastery of the basic skills in touch typewriting. Typing of letters, reports, short tabulations, themes, manuscripts, and office memoranda.

212-3 Intermediate Typewriting
Development of speed and accuracy. Introduction to production typewriting of letters, reports, tabulations, and manuscripts. 2 hours lab per week required. Prerequisite: OA 211.
Advanced Typewriting
Further development of speed and accuracy with emphasis on business letters, tabulation problems, business reports, and manuscripts. Introduction to typewritten transcription from office dictation equipment. 2 hours lab per week required. Prerequisite: OA 212.

Introduction to Word/Information Processing
Principles and operation of word/information processing installations; emphasizing basic office applications using word/information processing software and the human aspects of word/information processing. Prerequisite: OA 212.

Intermediate Word/Information Processing
Study of the document cycle (orientation, production, reproduction, storage and retrieval, and distribution) as it relates to the electronic office applications of word/information processors. Prerequisite: OA 220.

Advanced Word/Information Processing
Explores the change from the traditional office to one utilizing the word/information processing concepts. Includes simulated applications on word/information processing equipment. Prerequisite: OA 221.

Beginning Transcription
Introduction to typewritten transcription from dictation. Prerequisite: OA 203, 212.

Office Machines
Introduction to adding machines, printing calculators, electronic calculators, duplicators, and their application to business problems. Teaching methods are also studied. For business education and office administration majors only.

Office Practicum
Gives students work experience in an actual office environment while being supervised/directed by college coordinator of business education.

Office Management and Administration
Modern offices and their operating problems including human relations and principles and procedures of records management. Integrated and simulated exercises are implemented.

Beginning Transcription
Introduction to typewritten transcription from dictation. Prerequisite: OA 203, 212.

Office Machines
Introduction to adding machines, printing calculators, electronic calculators, duplicators, and their application to business problems. Teaching methods are also studied. For business education and office administration majors only.

Office Practicum
Gives students work experience in an actual office environment while being supervised/directed by college coordinator of business education.

Office Management and Administration
Modern offices and their operating problems including human relations and principles and procedures of records management. Integrated and simulated exercises are implemented.

Pharmacology/PHR
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. (Previously listed as BCH 340.)
Survey of American philosophy from Jonathan Edwards to John Dewey including transcendentalism (Emerson, Thoreau), idealism (Royce), pragmatism (Peirce, James), and naturalism (Santayana, Dewey).

Major developments in last hundred years from Frege and early views of Moore and Russell; through logical atomism (Russell, Wittgenstein) and logical positivism (Shlick, Carnap, and Ayer); to more recent views of such figures as Wittgenstein and Quine. Prerequisite: PHL 111, 112, or 123; or permission of instructor.

Critical examination of major issues and problems of contemporary philosophical ethics. Concepts of "good," "evil," "right," "wrong," and "justice." Obligations to ourselves and others; praise, blame, punishment, and pardon; and meaning and purpose of life.

Investigation and discussion of moral issues as they arise within major areas of society. Emphasis on studies in such areas as medicine, law, family, business, and politics.

Concepts which border the philosophy of language, philosophy of mind, and ontology. Sample topics: predication and universals; naming, meaning, and necessity; negation, existence, and truth; and logical and semantical paradoxes. Prerequisite: PHL 123 or permission of instructor.

Standard notations, principles of inference, formal systems, and methods of proof. Focus on first-order predicate logic.

Analysis of classical and contemporary writings in political philosophy; includes such topics as power, sovereignty, the state, and anarchy; equality, justice, law, and liberty; consent, representation, and will of the people; and political rights and responsibilities.

Topics in ancient and modern political philosophy. Topics vary.

Study of theories concerning the nature of the work of art, aesthetic experience, the arts, and beauty.

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.

Examination of philosophical importance of the theories of evolution, psychoanalysis, dialectical materialism, and space-time relativity.

Case study and discussion of ethical issues involved in business transactions and management.

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.

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.

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.

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.

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.

Examination of presuppositions of contemporary secular religion in existentialism.

Representative writers of the existentialist movement.

Problems, approaches, and topics in the field of philosophy. Topics vary.

Introduction to the major writings of outstanding philosophers. Involves presentation and critical examination of the philosophers' views.

Critical examination of major theories of value and obligation. The best theory of value and obligation; assessment and measurement of values; and the role of values in deliberation, decision making, and in explanations of behavior. Prerequisite (at least one of the following): PHL 113, 124, 311, or 312.
415-4 Philosophical Problems
Detailed examination of one of the outstanding philosophical problems—ancient, medieval, and/or contemporary.

423-4 Advanced Logic
(Listed jointly with Department of Mathematics and Statistics; see MTH 423.) Treats logic as object rather than subject. Emphasis on use of logic and on limitations of logical systems. Prerequisite: PHL 123 and 323, or one of these and one mathematics course beyond calculus, or permission of instructor.

424-4 Mathematical Philosophy
Investigation of philosophical theories concerning the nature of mathematics, the ground of mathematical knowledge, the necessity of mathematical truth, the empirical relevance of mathematics, and the relationships between mathematical philosophy and general philosophy. Prerequisite: PHL 123 or permission of instructor.

425-4 Philosophy of Language
Discussion of basic topics and issues. The limits of meaningful discourse. Aspects of meaning—literal, metaphorical, and conversational; contemporary theories of meaning.

431-4 Classical and Medieval Political Philosophy
(Listed jointly with Department of Political Science and Urban Affairs; see PLS 302.) 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
(Listed jointly with Department of Political Science and Urban Affairs; see PLS 303.) 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.

465-4 Advanced Analysis
Investigation of certain problems and attempted solutions that have occupied major contemporary Anglo-American philosophers such as Moore, Russell, Wittgenstein, Carnap, Ryle, Austin, Strawson, and Quine. Prerequisite: PHL 111, 112, or 123; or permission of instructor.

467-4 Philosophy of Mind
Classical and contemporary approaches to such issues as the nature of mind, relationships of mind to body, knowledge or other minds, intentionality, perception, and agency. Prerequisite: PHL 111 or 112 or permission of instructor.

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: PHL 115 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: PHL 115 or permission of instructor.

481-3 to 4, 482-3 to 4, 483-3 to 4 Independent Reading
Faculty-directed readings in philosophic literature.

495-4 Metaphysics
Investigation of classical and contemporary attempts to develop a theory of the nature of being and reality. Prerequisite: PHL 111 or 112 or permission of instructor.

496-4 Epistemology
Origin, certainty, and extent of human knowledge. Prerequisite: PHL 111 or 112 or permission of instructor.

Physics/PHY
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 The Nuclear Atom
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.

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 The Nuclear Atom 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.
121-3 From Apples to Spaceships
Evolution of science and scientific world view studies by tracing development of mechanics and energy concepts from Galileo and Newton through Einstein. Application to space travel, relativity, and other topics of current interest. Laboratory is listed as PHY 131.

122-3 The Nuclear Atom
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 Suns, 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.

124-3 Lights, Colors, and Sounds
Wave motion is studied with orientation toward examples of light and sound, such as musical sounds, noise, and colors occurring in nature. Laboratory is listed as PHY 134.

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.

131-1 Apples to Spaceships Laboratory
Experiments designed to illustrate the methods of scientific investigation. Laboratory component of PHY 121 for students wishing to use course to meet General Education science requirements.

132-1 The Nuclear Atom 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 Suns, 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.

134-1 Lights, Colors, and Sounds Laboratory
Experiments to illustrate the physical aspects of what we see and hear. Laboratory component of PHY 124 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 the planetarium. Laboratory component of PHY 125 for students wishing to use course to meet General Education science requirements.
150-1.5, 151-1.5, 152-1.5 Contemporary Concepts in Physics
Modern physics with emphasis on recent developments. Topics range from astrophysics to molecular and nuclear physics. Graded pass/unsatisfactory.

200-1 General Physics Laboratory

201-1 General Physics Laboratory

202-1 General Physics Laboratory

210-3 General Physics
Selected topics in mechanics; introduces use of calculus in interpretation of physical phenomena. Prerequisite: PHY 112, 113, MTH 133.

211-3 General Physics
Selected topics in electricity and magnetism; introduces use of calculus in interpretation of physical phenomena. Prerequisite: PHY 112, 113, MTH 133.

After successfully completing PHY 111, 112, 113, 210, and 211, students may take courses for which PHY 240, 241, and 242 are prerequisite.

214-3 Energy Production: Alternative Solutions
(Listed jointed with Department of Environmental Studies; see ENV 214.) Basic energy concepts and physical processes by which natural resources are converted to useful energy. Physical principles are introduced as needed. Prerequisite: MTH 102 or equivalent.

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. Corequisite: PHY 200, MTH 132.

241-4 General Physics
Introductory survey of thermodynamics, oscillations and waves, sound, fluids, and gravity. Uses calculus in interpreting physical phenomena. 3 hours lecture, 1 hour recitation. Prerequisite: PHY 240, MTH 132. Corequisite: PHY 201, MTH 133.

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 133. Corequisite: PHY 202.

243-2 General Physics
Introductory survey of optics. Topics include lenses, mirrors, optical instruments, interference, diffraction, and lasers. 1.5 hours lecture, 1 hour lab. Prerequisite: PHY 113 or 241.

260-4 Introduction to Modern Physics
Introduces phenomenology and theoretical concepts of modern physics. 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. Instrumentation for nuclear physics research. One hour is devoted to demonstrations and recitations. Prerequisite: PHY 210 and 211, or 242; MTH 133.

280-3 Introduction to Photography
Develops an understanding of optical and photographic processes and the techniques necessary to control this medium for a wide range of uses of photography. 1 hour lecture, 4 hours lab. Graded pass/unsatisfactory.

300-3 Properties of Semiconductor Materials
Crystal structure and growth, quantum theory and atomic structure, energy bands in solids, charge carriers and thermodynamic equilibrium; generation and recombination of excess charge carriers, diffusion, and junctions. Prerequisite: PHY 242.

301-3 Semiconductor Device Physics
Bipolar junction transistors, p-n junction diodes, field effect transistors, and integrated circuits. Other semiconductor devices and fabrication of semiconductor devices. Prerequisite: PHY 300.

314-2 to 3 Intermediate Physics Laboratory
Intermediate-level laboratory problems. Acquaints students with wide variety of experimental techniques in many areas of classical and modern physics. Prerequisite or corequisite: PHY 260 or permission of instructor.

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. Prerequisite or 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 315.

322-4 Applied Optics
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 243 or equivalent; MTH 253.
332-3 Lasers
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 243, 260; or CHM 121, or permission of instructor.

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 242; MTH 232. Corequisite: MTH 233.

400-3 Introduction to Solid Earth Geophysics
(Listed jointly with Department of Geological Sciences; see GL 400.) The basics of seismic, gravimetric, magnetic, and heat conduction principles as 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 132.

420-3 Thermodynamics
First and second laws of thermodynamics; general thermodynamic formulas with applications to matter. Prerequisite: PHY 210, 211 or 242.

421-3 Statistical Thermodynamics

422-5 Introduction to Geophysical Prospecting
(Listed jointly with Department of Geological Sciences; see GL 422.) Introduction to principles of gravity, magnetic, seismic, electrical, and radioactive prospecting. 4 hours lecture, 2 hours lab. Prerequisite: MTH 132.

423-4 Seismic Exploration
(Listed jointly with Department of Geological Sciences; see GL 423.) Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration. 4 hours lecture, 2 hours lab. Prerequisite: PHY 422, MTH 231; or permission of instructor.

424-4 Gravity and Magnetic Exploration
(Listed jointly with Department of Geological Sciences; see 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.

425-4 Topical Concepts in Geophysics
(Listed jointly with Department of Geological Sciences; see GL 425.) Special topics in geophysics. 3 hours lecture, 2 hours lab. Prerequisite: PHY 400 or 422 or permission of instructor.

426-1 Geophysics Seminar
(Listed jointly with Department of Geological Sciences; see GL 426.) Literature survey and students' presentations on selected topics in geophysics. Prerequisite: PHY 400 or 422.

430-2 to 4 Electronics
Basic theory and application of transistors and integrated circuits in present-day circuitry as found in research instrumentation. Prerequisite: PHY 242 or equivalent.

437-4 Seismic Data Processing
Digital filtering, deconvolution, and migration of seismic data. Prerequisite: PHY 423.

442-4 Physical Optics
Interaction of light and matter and interpretation of these phenomena using the electromagnetic wave theory of radiation. Topics include emission, absorption, scattering, polarization, interference, diffraction, coherence, and holography. Prerequisite: PHY 452, MTH 333.

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 and 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
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.

480-3, 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.

488-1 to 3 Independent Reading
Prerequisite: PHY 240, 241, 242; 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
Core Courses
301-5 Human Physiology I
First half of a basic course in human physiology. Subject areas include homeostasis; cell, nerve, and muscle function; nervous system regulation and integration; cardiovascular and circulatory function. 4 hours lecture, 2 hours lab. Prerequisite: ANT 201, 202; CHM 121; MTH 102. (Previously listed as PHS 218.)

302-5 Human Physiology II
Second half of a basic course in human physiology. Subject areas include metabolism, gastrointestinal, pulmonary, renal, and reproductive function; acid-base regulation; endocrine regulation; and integrative mechanisms. 4 hours lecture, 2 hours lab. Prerequisite: P&B 301 or permission of instructor. (Previously listed as PHS 219.)

303-4 Physiology of Disease
Inadequate or inappropriate physiological responses and their consequences are presented. Emphasis is on applications of physiological principles. Prerequisite: P&B 301, 302; BCH 250; M&l 220. (Previously listed as PHS 403.)

Additional Courses
488-1 Independent Reading in Physiology
Independent reading in physiological literature. A written report is required for each registered period. (Previously listed as PHS 488.)

499-1 to 4 Special Problems in Physiology
A specialized program which 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. (Previously listed as PHS 499.)

Polish/POL
111-4 Essentials of Polish
Introduction to Polish with an emphasis on speaking the language.

Political Science/PLS
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
110-4 Political Issues
Selected current domestic and international political issues; background information and analysis of importance; presentation of major alternative viewpoints; present stage of governmental action and policy on each issue; and identification of information sources pertaining to each issue.

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: PLS 200 or permission of instructor.

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. (Previously listed as PLS 310.)

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: PLS 200 or permission of instructor. (Previously listed as PLS 112.)

222-4 International Politics
Introductory survey of the international political system including study of state and nonstate actors, major features of the system, conflict roots and approaches to peace-keeping, and current issues. Prerequisite: PLS 200 or permission of instructor. (Previously listed as PLS 122.)
242 Courses/Political Science

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. (Previously listed as PLS 204.)

Advanced Courses
PLS 302 through 494 require completion of political science core courses or permission of instructor.

302-4 Classical and Medieval Political Thought
(Listed jointly with Department of Philosophy; see 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. (Previously listed as PLS 401.)

303-4 Political Thought: Hobbes to Mill
(Listed jointly with Department of Philosophy; see 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. (Previously listed as PLS 402.)

304-4 Twentieth-Century Political Thought
Critical examination of twentieth-century political theory. Emphasis on nature, methodology, evaluation, existing condition, and future of political thought. (Previously listed as PLS 403.)

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.

306-4 The Marxist-Christian Dialogue
(Listed jointly with Department of Religion; see REL 306.) Examination and evaluation of the Marxist-Christian dialogue. Emphasis on such categories as hope, liberation, alienation, people, love, class struggle, transcendence, power, and change.

321-4 City Politics
Governments and politics of metropolitan regions; government structure and functions; and interest and power relations. (Previously listed as PLS 225.)

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. (Previously listed as PLS 226.)

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. (Previously listed as PLS 326.)

324-4 Political Aspects of Urban Development
Institutional and political context of planning; laws, governmental structures, and procedures; and urban politics. (Previously listed as PLS 328.)

331-4 Political Parties
General functions, organization, and operation of American political parties. Emphasis on role of parties in democratic systems. Nominations, elections, campaigns, and presidential politics. (Previously listed as PLS 231.)

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; the nature and functions of the judicial process. (Previously listed as PLS 240.)

345-4 Public Administration
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; organizations of public employees.

351-4 Western European Politics
Comparative study of the political systems of Great Britain, France, and West Germany. (Previously listed as PLS 251.)

352-4 Ethnic Politics
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 black 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.

360-4 Politics of the Developing Nations
Comparative analysis of various problems, particularly political, confronting developing nations in nation building and development.
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.

371-4 Current World Problems
Various views and perspectives on selected contemporary problems and trends in international politics. (Previously listed as PLS 271.)

376-4 Peace Studies
Study of war and 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. (Previously listed as PLS 276.)

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.

383-4 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.

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 on pertinent theory, methodology, and case studies. Practical research by students.

427-4 Urban Policy Analysis
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
(Listed jointly with Department of Communication; see COM 429.) Processes and institutions by which individuals and groups communicate in urban environment. Model of an urban communication system developed by interdisciplinary systems approach.

430-4 Seminar in American Politics and Government
Selected topics related to American political institutions and processes. Emphasis on readings, discussion, and research.

433-4 Public Opinion
Opinion formation in American politics; relationship of opinion to public policy; voting behavior in American elections; role of mass media and political interest groups in policy process; and development of political attitudes and values.

434-4 Political Leadership
Development of political attitudes and values among leaders, activists, and the public. Relationship between personality, political leadership, behavior, and policy.

440-4 Constitutional Law
Cases in which provisions of the Constitution have been judicially interpreted; federal systems; separation of powers; and limits on government. (Previously listed as PLS 340.)

441-4 Civil Liberties
Cases and related materials on the Bill of Rights and the Fourteenth Amendment with emphasis on the First Amendment freedoms. (Previously listed as PLS 341.)

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. (Previously listed as PLS 342.)

443-4 Administrative Law Procedure
Study of the law controlling the process by which policy is made and administered by public agencies. 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
(Listed jointly with Department of Anthropology; see ATH 450.) Study of that part of the culture of primitive societies which 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.
244 Courses/Political Science

453-4 Political System of the Soviet Union
Analysis of the Soviet system with emphasis on development of the Communist Party.

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.

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.

492-1 to 4 Independent Field Experience
Supervised individual projects. May involve intern programs in local government or other special programs.

493-1 to 4 Contemporary Problems
Advanced study in selected topics which frequently include new developments in the methodology or subject matter of the various subfields of the discipline.

494-1 to 4 Special Topics
Study of particular political problems of contemporary significance.

Portuguese/POR
111-4 Essentials of Portuguese
Introduction to Portuguese with an emphasis on speaking the language.

Psychology/PSY

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 and 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 and 110, or 111 and 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 and 110, or 111 and 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 and 110, or 111 and 112.

203-4 Psychology of Health Behavior
Survey of the contributions of psychology of health care. The focus is both theoretical and practical, emphasizing the integration of physiological and psychological knowledge. Prerequisite: PSY 105 and 110, or 111 and 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 and 110, or 111 and 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 illustrated with cases of interest to a wide variety of helping professionals. Prerequisite: PSY 105 and 110, or 111 and 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 and 110, or 111 and 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 and 110, or 111 and 112; STT 265.

304-4 Industrial and Organizational Psychology
Scientific psychological principles, procedures, and methods applied to human behavior in organizations. Prerequisite: PSY 105 and 110, or 111 and 112.

306-4 Engineering Psychology
(Listed jointly with Department of Biomedical Engineering, see BME 306.) Introduction to the study of human factors in the design and operation of machine systems. Prerequisite: PSY 105 and 110, or 111 and 112.

307-4 Tests and Measurements
Introduction to the construction and use of attitude scales, and aptitude and ability tests in organizational settings with special emphasis on the utilization of standard tests. Prerequisite: PSY 105 and 110, or 111 and 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 and 110, or 111 and 112.

321-4 Cognition and Learning
Survey of cognitive processes with 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 and 110, or 111 and 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 and 110, or 111 and 112.

333-4 Personality Research Methods
Laboratory experience in research techniques related to experimental personality. 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 and 110, or 111 and 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 and 110, or 111 and 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 and 110, or 111 and 112.

363-4 Conditioning and Learning Methods
Problems and methods of research in conditioning, learning, and motivation. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 361.

371-4 Perception
Study of the active processes by which organisms gather, interpret, and respond to environmental stimuli. Prerequisite: PSY 105 and 110, or 111 and 112.

373-4 Perception Methods
Laboratory experience and research techniques in various areas of perception. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 371.

391-4 Physiological Psychology
Physiological mechanisms of behavior. Emphasis on motivational systems and learning. Prerequisite: PSY 105 and 110, or 111 and 112 (no prerequisite for biological sciences majors).

392-4 Advanced Physiological Psychology
Physiological mechanisms of behavior. Emphasis on motor and sensory systems. Prerequisite: PSY 391.

393-4 Physiological Psychology Methods
Laboratory exercises in neuropsychology. 2 hours lecture, 4 hours lab. Prerequisite: PSY 300, 392.

400-4 Advanced Research Design and Quantitative Analysis
Use of factorial designs and multivariate tests in psychological research. Prerequisite: PSY 300.

401-4 Advanced Experimental Design: Packaged Computer Programs
Focus on the use of canned computer programs such as SPSS, SAS, and BIOMED in the design, analysis, and interpretation of behaviorally oriented research. Prerequisite: PSY 300, 400.
411-4 Advanced Topics in Abnormal Psychology
Theories and research relating to causes, symptoms, and influences of abnormal behavior. Prerequisite: PSY 311.

419-4 Advanced Topics in Physiological Psychology
Detailed examination of selected areas in physiological psychology. Prerequisite: PSY 391.

421-4 Advanced Topics in Cognition and Learning
Detailed examination of selected areas in cognition and learning. Prerequisite: PSY 321.

425-4 Human-Computer Interface
Relationship of human cognitive, perceptual, and language processes to the effective operation of computer systems. Review of research and theory. Prerequisite: PSY 331 or 351.

429-4 Advanced Topics in Interpersonal Relations
Interpersonal relations as a subject of research and theory. Consideration of application to therapeutic intervention and everyday interaction. Prerequisite: PSY 331 or 351.

431-4 Advanced Topics in Personality
Review of selected topics in personality. Selected personality constructs and their measurement (e.g., need for achievement, self-concept) as well as situational determinants of behavior. Prerequisite: PSY 331.

432-4 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).

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.

449-4 Theory and Research in Hypnosis
Presentation of hypnosis as a subject of research and theory. Coverage of history, myths, and legal and ethical aspects; relation to psychopathology and to normal personality traits; applications in psychology, medicine, and dentistry; and potentials and limitations in regard to self-control and self-improvement. Prerequisite: PSY 111, 112, 311 or 331.

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.

455-4 Psycholinguistics
An overview of language: its development during the first years of life, its biological basis, and its normal and abnormal characteristics.

461-4 Advanced Topics in Conditioning and Learning
Continued study of conditioning, learning, and motivation. Prerequisite: PSY 361.

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
(Listed jointly with Department of Biological Sciences; see BIO 478.) Physiology, phylogeny, and ontogeny of behavior. Prerequisite: BIO 111, 112, 114; 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.

482-4 Theories and Systems in Psychology
Comprehensive treatment of the historical antecedents for selected theories and systems in psychology.
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.

499-1 to 4 Honors Research Project
Original problems for investigation leading to a psychology department honors thesis.

Regional Studies/RST/RSE

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
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 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 nonwestern regions; and the contribution of Africa to world civilization.

RST 280-3 Regional Studies: Latin America
Survey of nonwestern 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.

Rehabilitation/RHB

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 utilize 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.

203-4 Pre-Practicum Field Experience
Provides an early experience working with physically/mentally disabled persons in a structural setting to determine suitability to work with specific groups. Requires ten clock hours per week in agency. Seminar permits students to explore rehabilitation practicum and professional characteristics which facilitate rehabilitation. Students are supervised by university and agency supervisors. Prerequisite: RHB 201, 202.

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.
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213-3 Introductory Field Experience in Rehabilitation Services
Seventy-five clock hours of supervised field experience intended to acquaint the 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 to 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 the community/rehabilitation services students with in-depth knowledge of the structure and processes of a selected agency, of the job description duties of the rehabilitation services aide within this agency, and of 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 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 107, RHB 201.

302-3 Medical Aspects of Rehabilitation II
Examination of the treatment and rehabilitation of those physical disabilities that impose chronic limitations on activity. Consideration of the social and vocational adjustments that must be made by the individual. Prerequisite: RHB 301.

303-4 Strategies for Employing the Physically Disabled
Overview of educational theories, job-seeking skills, various vocational evaluation systems, occupational information, and other techniques which facilitate employment of clients with physical disabilities. Attention is given to job analysis, job placement, and other techniques. Consideration of attitudinal and architectural barriers which clients may encounter. 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.

370-1 to 3 Independent Study/Minor Problems in Rehabilitation
Independent study in areas of interest to students but which are not readily available in any existing course. Topics vary.

401-4 Functional Disorders
Techniques used to rehabilitate clients disabled by psychiatric, neurotic, 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, 303, 311.

402-4 Behavioral Assessment in Rehabilitation
Assists students in developing knowledge and skills essential to the interpretation and use of diagnostic information. Work evaluation reports, general ability test batteries, and psychological test reports are examined. Prerequisite: RHB 201, 202, 301.

403-4 to 12 Rehabilitation Practicum
Integrative experience for rehabilitation education students. Requires 400 clock hours of field work supervised by the faculty and the agency. Graded pass/unsatisfactory. Prerequisite: RHB 201, 202, 301, 303, 304, 401, 402.

404-4 Rehabilitation Seminar
Problems and programs of special interest in rehabilitation. Prerequisite: RHB 201, 301, 303, 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 on conversational skills. Aspects of deafness are covered through off-campus field experience, speakers, panels, and readings. Prerequisite: RHB 405.

407-4 Principles of Rehabilitation Counseling
Focuses on the development of basic skills and attitudes associated with rehabilitation counseling. Interview style and format are examined along with listening and responding techniques associated with holistic approaches. Prerequisite: RHB 202, 301, 304.

408-4 Community Aspects of Deafness
Introduction to the social, cultural, and linguistic history of the deaf community in the United States. Prerequisite: RHB 201, 202, 301, 405, 406.

409-4 Intermediate Sign Language
Improves the students' skill in American sign language. Consideration is given to signed English and procedures required to obtain interpreters for the deaf. Prerequisite: RHB 201, 202, 301, 405, 406, 407.
410-4 **Counseling Aspects of Deafness**
Develops a broader understanding of the psychological, medical, social, and vocational concerns of hearing-impaired individuals. Focus on basic counseling skills, medical aspects of hearing, and attitudinal barriers.

411-4 **Physical Disability and Human Behavior**
The interaction of physical disabilities and human behavior. Appropriate group approaches are reviewed. Prerequisite: RHB 301, 407; CNL 461.

470-1 to 3 **Special Topics**
Special workshop courses to meet the needs of in-service rehabilitation professionals as well as providing courses on a one-time basis to meet special interests. May be taken for letter grade or pass/unsatisfactory.

**Religion/REL**

**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**

**111-3 Eastern Religions**
General introduction to the major religious traditions of South Asia and East Asia: Hinduism, Buddhism, Confucianism, Taoism, and Shintoism.

**112-3 Western Religions**
General introduction to the major religious traditions of Judaism, Christianity, Islam, and other selected religious traditions.

**113-3 Contemporary issues in Religion**
Study of selected problems, ideas, and religious developments that have become important in contemporary society.

**114-3 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.

**200-3 Hebrew Scripture (Old Testament)**
Introduction to the literature, history, and religion of ancient Israel.

**201-3 Post-Biblical Judaism**
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.

**202-3 Literature and Religion of the New Testament**
Introduction to the literature, history, and religion of early Christianity.

**203-3 Biblical Studies**
Investigation and discussion of specific areas in Biblical studies: for example, Hebrew prophets, Jesus in the Gospels, Paul’s letters, or a Biblical book or theme.

**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.

**210-3 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.

**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.

**241-3 Japanese Religion**
Examination of the role of religion in Japanese culture and society, with attention to both historical development and to current issues.

**270-3 Approaches to Religious Ethics**
Examination of various religious ethical systems from diverse cultural situations.

**300-3 Technology and Society**
(Listed jointly with Departments of Engineering and Sociology; see EGR 300, SOC 311.) Important developments in engineering and technology; their interrelations with society and human values as viewed in historical and in contemporary perspective.

**301-4 Religion and Sexuality**
Analysis of the relation of religion to sexuality and related ethical issues.

**303-4 Space and Faith: Topics in Religion and Geography**
(Listed jointly with Department of Geography; see GEO 303.) The interrelation of religious and geographical factors in selected cultures of East and South Asia.

**304-4 Religions in the Biblical Period**
Examination of selected religious movements and/or problems in the Biblical period, and their interconnectedness and mutual influences.
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305-4 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.

306-4 The Marxist-Christian Dialogue
(Listed jointly with Department of Political Science; see PLS 306.) Examination and evaluation of the Marxist-Christian dialogue. Emphasis on such categories as hope, liberation, alienation, people, love, class struggle, transcendence, power, and change.

309-4 Christianity
Examination of the structures of religious experience which 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.

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.

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, Rothchild, Heschel, Rubenstein, and Weisel).

320-4 Religion and Ethics in the Arts
Analysis of the religious and ethical dimensions, themes, and problems presented in selected contemporary art forms (e.g., architecture, cinema, drama, literature, music, painting, and sculpture).

325-4 Understanding Death
Basic issues in death and dying, using resources from human sciences and humanities in religious perspective.

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.

349-4 Asian Religious Philosophy
(Listed jointly with Department of Philosophy; see PHL 349.) 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.

360-3 Anthropology of Religion
(Listed jointly with Department of Anthropology; see 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.

361-4 Sociology of Religion
(Listed jointly with Department of Sociology; see SOC 361.) General treatment of religion, examining the influence of religious ideas and institutions on other social institutions and influence of society on religion.

362-4 Classical Psychologies of Religion
Introduction to the theories of individuals who have made lasting contributions to the development of the psychology of religion. Individuals chosen to offer contrasting positions.

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.

378-4 Ethics and Medicine
(Listed jointly with Department of Philosophy; see 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.

381-4 Philosophy of Religion: Contemporary Western Survey
(Listed jointly with Department of Philosophy; see PHL 381.) 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.

382-4 Philosophy of Religion: Process
(Listed jointly with Department of Philosophy; see PHL 382.) Realism and the revolt against idealism. Cross-disciplinary analysis of a major contemporary philosopher and the implications of his thought for religion. Focus on Alfred North Whitehead.
383-4 Philosophy of Religion: Secular
(Listed jointly with Department of Philosophy; see PHL 383.) Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed (sensation, morality, beauty, reason, human relations). Examination of presuppositions of contemporary secular religion in existentialism.

394-4 Existentialism
(Listed jointly with Department of Philosophy; see PHL 394.) Representative writers of the existentialist movement.

399-4 Studies in Selected Subjects
Problems, approaches, and topics in the field of religion. Topics vary.

400-4 Seminar in Religion
Topics vary.

410-4 Religious Themes in Literature
(Listed jointly with Department of English; see ENG 460.) Courses offered under this number provide 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.

417-4 Evolution, Religion, and Ethics
(Listed jointly with Department of Biological Sciences; see BIO 417.) Introduction to the biological, philosophical, theological, and ethical aspects of evolution.

419-3 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.

429-4 Foundations for Religion Studies
Introduction to various methods utilized in religion studies and an application of these methods to concrete data.

430-3 Teaching about Religion in the Public School
(Listed jointly with College of Education and Human Services; see ED 430.) Introduction to the historical background and court decisions pertaining to teaching about religion in the public school; current ways in which religion is taught in the public school; new experimental approaches to teaching about religion.

431-4 Religion in American Life
Development of religious thought and institutional life in the United States viewed in relationship to American social change.

450-1 to 4, 451-1 to 4, 452-1 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.

454-4 Age of Reformation
Decline of European feudalism and rise of the nation-state; revival of culture and arts; decline of universal Church and growth of religious diversity.

470-3 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.

481-1 to 4, 482-1 to 4, 483-1 to 4 Independent Reading

Russian/RUS

101-4, 102-4, 103-4 First-Year Russian
Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing.

111-4 Essentials of Russian
Introduction to Russian with an emphasis on speaking the language.

201-4, 202-4, 203-4 Second-Year Russian
Grammar review, reading and discussion of selected texts with practice in speaking and writing. Prerequisite: RUS 103.

301-4, 302-4 Russian Literature
Historical survey of Russian literature from its beginning to the present. Prerequisite: RUS 202 or equivalent.

341-4, 342-4 Russian Conversation
Emphasis on the culture of the Russian-speaking world. Prerequisite: RUS 202 or equivalent.

399-1 to 4 Studies in Selected Subjects
Problems, approaches, and topics in the field of Russian. Topics vary.

471-4 Introduction to Historical and Comparative Linguistics
(Listed jointly with Linguistics; see LI 471.)

Social Work/SW

270-4 Introduction to Social Welfare and Social Work
Introduction to social work program. History, purpose, and effectiveness of the contemporary social welfare system; development of the social work profession.

280-4 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.

320-1 to 6 Workshop in Current Problems
(Listed jointly with Department of Sociology and Anthropology; see SOC 314.) Intensive study of a particular problem area utilizing professionally qualified personnel from academia and the practice community. Topics vary.
Courses/Social Work

370-4 Community Welfare Organizations and Services
Analysis of community agencies designed to meet social welfare needs. Four-hour field placement per week in a social agency. Prerequisite: SW 270, 280, or permission of instructor.

380-4 Basic Practice Theory
Foundation sequence of generic social work practice theory. Problem assessment, data collecting, data analysis, and evaluation procedures. Introduction to task-centered approach. Prerequisite: SW 270, 280; COM 102.

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
(Listed jointly with Department of Sociology; see SOC 462.) Study of social aspects of aging, the needs of the aging population, and society's response to these needs.

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 370 or permission of instructor.

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 370.

472-4 Social Work and the Law
Legislative base of various social welfare agencies and programs. Legal authority aspects of various social work practice roles. Social work practice relations to judicial, law enforcement, and legislative processes.

473-4 Child Welfare
Framework for categorizing child welfare problems. Historical and current examination of legislation, policies, programs, and service to address child welfare needs, including the role of the child welfare worker. Prerequisite: SW 380.

477-1 to 4 Seminar on Special Problems in Social Welfare Policy and Services
Selected topics related to the operation of the social welfare system in America; issues, trends, and problems.

481-4 Advanced Practice: Individuals
In-depth study of social work practice theory for the enhancement of social functioning of individuals. Prerequisite: SW 380.

482-4 Advanced Practice: Groups
In-depth study of social group work practice theory. Course learning experiences incorporate practice situations. Prerequisite: SW 380.

483-4 Advanced Practice: Families
In-depth study of social work practice theory for the enhancement of family social functioning. Prerequisite: SW 380.

484-4 Advanced Practice: Organizations and Communities
Strategies for affecting change in organizations, service delivery systems, and social welfare resource utilization in communities. Prerequisite: SW 380.

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. Prerequisite: SW 370 or permission of instructor.

494-2 to 4 Independent Research in Social Work
May be taken for letter grade or pass/unsatisfactory.

Sociology/SOC

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.

Departmental Courses

SOC 201 or 202 is prerequisite for all advanced courses except 210, 212, 221, and 462.

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? (Previously listed as SOC 112.)

202-3 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. Prerequisite or corequisite: SOC 200. (Previously listed as SOC 113.)

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. (Previously listed as SOC 213.)

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. (Previously listed as SOC 396.)

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.

212-3 Woman's Place in the Eighties
Survey of status and role of woman in today's society drawn from history, biology, psychology, and sociology. Explores sex-role learning, third-world women, institutions of education, economics, politics, marriage and family, and future trends.

221-3 Exploring Social Issues
Focus is on specific social problems. Topics vary.

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
Analyses contemporary sociological theory (structural functionalism, symbolic interactionism, critical theory, phenomenological theory) with a focus on the interpretation of society and on major figures of the twentieth century.

306-4 Collecting Social Data I
Philosophical and applied issues of sociological investigation. Various means of collecting sociological data are analyzed. (Previously listed as SOC 206.)

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; other topics include socialization and media.

311-4 Technology and Society
(Listed jointly with Departments of Engineering and Religion; see EGR 300, REL 300.) Important developments in engineering and technology; their interrelations with society and human values viewed in historical and in contemporary perspective.

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.

314-1 to 6 Workshop in Current Problems
(Listed jointly with Department of Social Work; see SW 320.) 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.

315-2 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. 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.

330-4 Criminology
Survey of crime, some causal theories, and attempts at crime prevention in the United States.

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.
254 Courses/Sociology

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 Sociology of Occupations and Professions
  Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work.

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.

361-4 Religion and Society
  (Listed jointly with Department of Religion; see 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. Completion of introductory courses in sociology or religion required.

363-4 Sociology of Education
  The 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.

401-4 Selected Topics in Theory/Methods
  Topics vary.

405-4 Seminar in Sociological Theory
  In-depth analysis of selected topics in sociological theory for advanced students. Topics vary.

406-4 Collecting Social Data II
  Advanced course in social research techniques which 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. (Previously listed as SOC 407.)

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, aging). Requires readings, a log, progress reports, and a paper synthesizing readings and field experience.

439-4 Selected Topics in Problems/Deviance
  Topics vary.

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 for 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.

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.

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.

461-4 Medical Sociology
  The 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
  (Listed jointly with Department of Social Work; see SW 462.) Study of social aspects of aging, the needs of the aging population, and society's response to these needs.

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.

479-4 Selected Topics in Social Institutions
Titles vary.

481-4 Sociology of Small Groups
Study of face-to-face interaction with emphasis on both intergroup and intragroup structures and processes.

489-4 Selected Topics in Social Interaction
Titles vary.

490-2 to 4 Independent Research in Sociology
A field project in an area of interest. May be taken for letter grade or pass/unsatisfactory.

Spanish/SPN

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.

141-2 Basic Spanish Conversation
Practice in conversation, emphasizing use of the language in everyday situations. Prerequisite: SPN 103 or equivalent.

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: SPN 103 or equivalent.

Advanced Courses
SPN 202 or equivalent is the minimum prerequisite for all advanced Spanish courses.

301-4, 302-4 Spanish Literature
Historical survey of Spanish literature. 301: from the beginning to romanticism. 302: romanticism to the present.

321-4, 322-4 Spanish Composition
Oral and written composition in Spanish; translations from English into Spanish.

331-4, 332-4 Spanish-American Literature
Reading of prose, poetry, and plays by Spanish-American writers. 331: from pre-Columbian times to romanticism. 332: romanticism to the present.

341-4, 342-4 Spanish Conversation
Practice in oral use of Spanish emphasizing the culture of the Hispanic world.

361-2 Spanish Phonetics
Study of the vowel and consonant sound system through phonetic method; intonation.

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.

The following courses require SPN 302 or 322 or permission of instructor, in addition to the listed prerequisites.

401-4 The Spanish Picaresque Novel
Intensive reading of such works as Lazarillo de Tormes, Vida del Buscon, and Guzman de Alfarache.

402-4 The Spanish Novel of the Nineteenth Century
Nineteenth-century prose work by Galdós and others.

403-4 Advanced Studies: Language/Civilization
Topics vary. Conducted in Spanish. Prerequisite: SPN 342 or permission of instructor.

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, entremeses, 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. Prerequisite: SPN 332 or permission of instructor.

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.

471-4 Introduction to Historical and Comparative Linguistics
(Listed jointly with Linguistics; see LI 471.)

481-4, 482-4 Independent Reading for the Advanced Student
Topics vary.
256 Courses/Statistics

Statistics/STT

164-3 Elementary Statistics I
Numerical descriptive methods, the axioms of probability, events, random variables, expected values, and introduction to the binomial and normal distributions. Prerequisite: MTH 127 or equivalent or at least Level 4 on math placement test.

165-1 Elementary Statistics Laboratory I
Data-oriented problems in descriptive statistics and probability at the introductory level. Corequisite: STT 164.

265-3 Elementary Statistics II
Statistical inference: point and interval estimation of the mean, the binomial parameter, hypothesis testing, the t distribution, and population variance. Linear regression and correlation, least squares, chi-square, and contingency tables. The analysis of variance. Examples from social, industrial, clinical, educational, and other applications. Prerequisite: STT 164.

266-1 Elementary Statistics Laboratory II
Data-oriented problems in statistical inference at the elementary level. Corequisite: STT 265.

360-4, 361-4 Applied Statistics I, II
Introduction to applied probability and statistics. Data handling, using electronic calculators, and packaged computer programs. Standard parametric statistical methods considered. Completion of two calculus courses required for 360. Prerequisite: 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. (Previously listed as STT 267.)

386-1 to 5 Independent Reading in Statistics and Probability
Topics vary.

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.

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
The stochastic concept of a queuing process is developed. Theory and applications of single and many server queues are presented. Emphasis on application in engineering and computer science. Prerequisite: STT 360 or 363 or equivalent.

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. Exploratory 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 is placed on applications to various areas of scientific research. Prerequisite: STT 265, or 361, or 363 or equivalent.

486-1 to 5 Independent Reading in Statistics and Probability

496-1 to 5 Topics in Statistics and Probability
Study Skills/SS

Credit for Study Skills Courses
Credit for these courses does not count toward a degree.

087-1 College Study Strategies
This course 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.

089-3 Fundamental English Skills I
Helps students develop and improve writing skills. Subject areas include grammar, sentence structure, and paragraph development.

090-3 Reading Improvement
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.

091-3 Fundamental English Skills II
Builds on skills developed in SS 089. Helps students write grammatically correct, logical, concisely organized papers and themes. Course covers paragraph development and concludes with the writing of a 200- to 300-word theme. Prerequisite: SS 089 or equivalent.

092-3 Critical Reading Improvement
Critical analysis of content area readings. Emphasis is 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.

093-3 Basic Math Skills
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 is 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.

095-3 Fundamentals of Oral Communication
Provides a background in the essential elements of functional oral communication and offers opportunities for students to improve the quality of their communication skills. 1 hour lecture, 2 hours lab. May be taken for letter grade or pass/unsatisfactory.

096-3 Psychology Concepts
An individualized course designed to introduce students to the field of psychology and to specific psychological principles, concepts, and terminology. May be taken for letter grade or pass/unsatisfactory.

097-3 Biology Survey
Focuses on building a vocabulary of biological terms and acquaints students with the concepts involved in the study of cell biology, heredity, and evolution. 3 hours lecture, 2 hours lab. May be taken for letter grade or pass/unsatisfactory.

098-3 Chemistry Survey
Provides an overview and an understanding of twelve principal topics taught in general chemistry. 3 hours lecture, 2 hours lab. May be taken for letter grade or pass/unsatisfactory.

099-3 Geology Survey
Designed for students with no prior knowledge of geology. Provides an overview of basic geological concepts, terms, and their application to everyday living. 3 hours lecture, 2 hours lab. May be taken for letter grade or pass/unsatisfactory.

Theatre/TH
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. Substitutions: TH 201 and 202.

Departmental Courses

101-4 The Arts of the Theatre
Develops understanding and appreciation of drama and the theatre. Critical analysis of the theatre as art form; includes functions of playwright, actor, director, critic, designer, and theatre architect.

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.

120-3 Makeup for the Theatre
Theory and practice of stage makeup. Prerequisite: TH 101, 102.

124-2 Theatre Graphics I: Fundamentals
Drawing for the theatrical designer with emphasis on fundamentals.

125-2 Theatre Graphics I: Media
Drawing for the theatrical designer with emphasis on media. Prerequisite: TH 124 or permission of instructor.

126-2 Theatre Graphics I: Concepts
Drawing for the theatrical designer with emphasis on concepts. Prerequisite: TH 125 or permission of instructor.

144-3.5, 145-3.5, 146-3.5 Acting I
Training imagination, mind, body, and voice of the beginning actor.
258 Courses/Theatre

147-2, 148-2, 149-2 Acting Aesthetics
Generalized acting course which includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only. Prerequisite: for 148, TH 147; for 149, TH 148.

154-1, 155-1, 156-1 Theatre Speech I
Through physical exercise and sensory improvisation, students learn correct vocal placement and support enabling them to develop an effective, efficient, stageworthy voice. Emphasis on corrective coaching of individual speech problems. Prerequisite: for 155, TH 154; for 156, TH 155. Corequisite: for 154, TH 144; for 155, TH 145; for 156, TH 146.

201-3 Theatre Analysis
Introduction to the many arts and artists of theatre; a historical survey of the development of drama; script analysis of selected major texts from the Greeks through the Renaissance.

202-3 Script Analysis
Historical examination of theatre conventions and play structure through detailed analysis of classical and modern scripts. Emphasis on texts from the seventeenth century to the present. Prerequisite: TH 201.

203-3 Contemporary Theatre
Critical study of contemporary theatre and its standards and production methods. Attendance at several current productions required. Prerequisite: TH 101.

210-3 Theatre Technology
Participation in the operation of a production shop. Introduces students to the fundamentals of theatre technology, emphasizing basic processes and materials. Participation in selected department productions required. For B.F.A. technology majors only.

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.

220-3 Stagecraft
Introduction to theory and practice of theatre technology with study of the materials and techniques involved. Includes practice in construction, mounting, and running of productions.

222-2 Theatre Production
Practical study of technical theatre involving participation in a University Theatre production. Students are assigned to either the scene, costume, or properties shop, or to run a theatre production.

224-3 Theatre Graphics II: Drafting
Introduction to and practice with the basic graphic tools, materials, and techniques used in drafting designs for the theatre.

225-3 Theatre Graphics II: Color
Introduction to and practice with the basic color theories, materials, and techniques utilized in designing for the theatre.

226-3 Theatre Graphics II: Model Making
Introduction to and practice with the basic tools, materials, and techniques of scale model building for the theatre.

227-3 Stage Lighting Technology
Mechanics of stage lighting, including behavior of light, lighting instruments, and control systems. Includes study of the functions and duties of the stage lighting technician.

228-3 Scenery Technology
An 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, dyeing, and distressing of costumes.

240-1.5, 241-1.5, 242-1.5 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 emphasizing character study. Emphasis placed on audition at the end of spring quarter. Prerequisite: for 244, TH 146.

254-1, 255-1, 256-1 Theatre Speech I
The second year of speech focuses on expansion and strengthening of the actor’s voice. Special emphasis placed on clear articulation and proper enunciation of the phonemes of American Standard English. Prerequisite: for 254, TH 156; for 255, TH 254; for 256, TH 255. Corequisite: for 254, TH 244; for 255, TH 245; for 256, TH 246.

257-0.5, 258-0.5, 259-0.5 Theatre Chorus
Vocal training with emphasis on choral singing for musical theatre. Prerequisite: for 258, TH 257; for 259, TH 258. Corequisite: for 257, TH 244; for 258, TH 245; for 259, TH 246.

290-3 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. Prerequisite: TH 101.
301-3 Design for the Theatre: Art On Stage
Design for the theatre presented as a recognized art form. The analysis of theatre design, costumes, lights, and sets as graphic arts, and in relation to the other theatrical art forms. Prerequisite: TH 101, 102.

304-4 Dramatic Writing
Theory and practice of the techniques of dramatic writing, emphasizing the 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.

311-3 Oral Reading of Drama
Analysis and practice in reading from plays and dramatic poetry; reader's theatre: performance.

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.

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. Prerequisite: for 344, TH 246.

350-4 Directing
Problems of script selection and interpretation, casting, rehearsal, and performance. Techniques of composition and movement; the proscenium stage and open stage. Preparation of the prompt book. Prerequisite: TH 244.

352-2 Directing Laboratory
Presentation of a one-act play in the studio theatre for departmental and public audiences. Prerequisite: TH 350.

354-1, 355-1, 356-1 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.

357-0.5, 358-0.5, 359-0.5 Theatre Chorus
Vocal training with emphasis on choral singing for musical theatre. Prerequisite: for 357, TH 259; for 358, TH 357; for 359, TH 358. Corequisite: for 357, TH 344; for 358, TH 345; for 359, 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. Prerequisite: TH 101.

361-3 The History of the Theatre II
Survey of the history and development of theatrical production from the seventeenth century through the present day. Emphasis on the history of play production. Prerequisite: TH 101.

362-3 Style and Concept
Investigation of the development of production concept in terms of visual and intellectual style choices in performance, interpretation, and design. For theatre arts majors only.

365-3 Theory and Criticism
Changing concepts of dramatic structure and criticism through comparative examination of works of selected playwrights and critics. Chief theories of dramatic production in relation to aesthetic principles.

366-3, 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 which develop sensitivity, bodily freedom, characterization, and impression.
Courses/Theatre

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.

412-3 Advanced Stage Makeup
Design and application of the advanced makeup techniques of prosthetics, hair ventilation, and wig making. Prerequisite: TH 120.

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 student’s 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.

428-3 Advanced Costume Technology
Advanced techniques of costume technology with emphasis on developing patterns, cutting and draping, and drafting. 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. 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.

454-1, 455-1, 456-1 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.

457-0.5, 458-0.5, 459-0.5 Theatre Chorus
Vocal training with emphasis on choral singing for musical theatre. Prerequisite: for 457, TH 359; for 458, TH 457; for 459, TH 458. Corequisite: for 457, TH 444; for 458, TH 445; for 459, TH 446.

460-3 Studies in Theatre History
Provides intensive study of selected aspects of theatre history. Titles vary.

470-3 Studies in Child Drama
Provides intensive study of selected aspects of children’s theatre and creative dramatics. Titles vary.

491-3 Seminar in Theatre
Selected topics in theatre.

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

101-1 Freshman Seminar: The University Experience
Overview of higher education, nature of scholarly study, academic requirements and organization of the university, selection of degree programs, characteristics of academically successful students, study strategies, and academic coping skills.

University Honors/UH

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

311-4 Introduction to Urban Affairs
Interdisciplinary introduction to general field of urban affairs. Reviews "idea of the city" and meaning of urban life. (Previously listed as URS 211.)

399-1 to 6 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.

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.
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Faculty


Adams, Robert W. Associate Professor of Political Science and Department Chair A.B., 1955, Utica College; M.A., 1961, Syracuse University, Ph.D., 1969, The Ohio State University

Ahmad, Khurshid Associate Professor of Insurance and Real Estate B.A., 1953, University of Karachi (Pakistan); M.A., 1955, Punjab University (Pakistan); Ph.D., 1970, University of Pennsylvania

Ahina, M. Fall Assistant Professor of Finance, H.E.C., 1977, Université de Tunis; M.B.A., 1980, Ball State University, Ph.D., 1986, Arizona State University

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<th>Year(s) and Institution</th>
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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 not 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
Notice to Students

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.