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The cover features a dramatic, low-angle photograph. On the left, a large, dark archway is illuminated from within, creating a series of bright, glowing horizontal bands. To the right, a dark silhouette of the Virgin Mary stands atop a tall, classical column. She is wearing a long, flowing robe and a halo. The background is a soft, hazy sky, suggesting a sunset or sunrise. The overall mood is contemplative and historical.

The University of
Dayton Bulletin

August 1993
Undergraduate Issue

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The University of Dayton Bulletin



Undergraduate Issue August 1993

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1993-1994 ACADEMIC CALENDAR

FIRST TERM

Sat.-Tue., Aug. 21-24	New Student Orientation
Tue., Aug. 24	Last day to complete registration
Tue., Aug. 24	New Student Convocation
Wed., Aug. 25	Classes begin at 8:00 a.m.
Thu., Sept. 2	Last day for late registration, change of grading options and schedules
Fri., Sept. 3	Last day to change Third Term and second session grades
Mon., Sept. 6	Labor Day—no classes
Fri., Sept. 10	General Faculty Meeting at 3:00 p.m.
Wed., Sept. 15	Last day to withdraw without record
Fri.-Sun., Sept. 24-26	Parents' Weekend
Tue., Sept. 28	Last day to submit candidacy for graduation in December
Mon., Oct. 11	Columbus Day—no classes except those held once weekly at 4:30 p.m. and after
Fri.-Sun., Oct. 15-17	Homecoming
Mon., Oct. 18	First-year students' midterm progress grades due in Registrar's Office by 4:00 p.m.
Wed.-Fri., Oct. 20-22	Winter 1993-94 registration for seniors
Mon.-Fri., Oct. 25-29	Winter 1993-94 registration for juniors
Mon., Nov. 1	All Saints Day—no classes except those held once weekly at 4:30 p.m. and after
Tue.-Thu., Nov. 2-18	Winter 1993-94 registration for sophomores
Fri.-Sun., Nov. 5-7	Parents' Weekend
Fri., Nov. 12	Last day to withdraw with record of W
Fri., Nov. 19	General Faculty Meeting at 3:00 p.m.
Fri.-Mon., Nov. 19-Dec. 6	Winter 1993-94 registration for first-year students
Wed., Nov. 24	Thanksgiving recess begins after last evening class
Sat., Nov. 27	Graduate Saturday classes meet
Mon., Nov. 29	All classes resume
Tue., Dec. 7	Last day of classes—all Monday classes will be held on Tuesday, Dec. 7 (8 a.m.-4:15 p.m.)
Wed., Dec. 8	Feast of Immaculate Conception—Christmas on Campus
Thu., Dec. 9	Study day—Faculty Development Day
Fri.-Thu., Dec. 10-16	Examinations
Wed., Dec. 15	Senior grades due
Thu., Dec. 16	First Term ends after final examinations
Sat., Dec. 18	Diploma Exercises
Mon., Dec. 20	Grades due in Registrar's Office at 9:00 a.m.

SECOND TERM

Tue., Jan. 4	Last day to complete registration
Wed., Jan. 5	Classes begin at 8:00 a.m.
Thu., Jan. 13	Last day for late registration, change of grading options and schedules
Mon., Jan. 17	Martin Luther King Jr. Day—no classes except those held once weekly 4:30 p.m. and after
Wed., Jan. 26	Last day to withdraw without record
Fri., Jan. 28	Last day to change First Term grades
Fri., Jan. 28	General Faculty Meeting at 3:00 p.m.
Mon., Feb. 7	Last day to submit candidacy for graduation in May
Mon., Feb. 21	Presidents' Day—no classes except those held once weekly 4:30 p.m. and after

Fri., Feb. 25	First-year students' midterm progress grades due in Registrar's Office by 4:00 p.m.
Fri., Mar. 11	Spring Break begins after last class
Mon., Mar. 21	Classes resume at 8:00 a.m.
Tue.-Thu., Mar. 22-24	Fall 1994-95 registration for seniors
Fri., Mar. 25	Last day to withdraw with record of W
Mon.-Fri., Mar. 28-Apr. 8	Fall 1994-95 registration for juniors
Thu., Mar. 31	Easter recess begins after last evening class
Tue., Apr. 5	Classes resume at 8:00 a.m.
Fri., Apr. 8	General Faculty Meeting at 3:00 p.m.
Mon.-Fri., Apr. 11-22	Fall 1994-95 registration for sophomores and first-year students
Tue., Apr. 26	Last day of classes—all Monday classes will be held on Tuesday, April 26 (8:00 a.m.-4:15 p.m.)
Wed., Apr. 27	Study Day
Thu.-Wed., Apr. 28-May 4	Examinations
Wed., May 4	Senior grades due—Second Term ends after final examinations
Sun., May 8	Commencement
Mon., May 9	Grades due in Registrar's Office at 9:00 a.m.

THIRD TERM — FIRST SESSION

Thu., May 12	Last day to complete registration
Fri., May 13	Classes begin at 8:00 a.m.
Wed., May 18	Last day for late registration, change of grading options and schedules
Tue., May 24	Last day to withdraw without record from first session courses
Mon., May 30	Memorial Day—no classes
Fri., Jun. 3	Last day to withdraw without record from full Third Term courses
Wed., Jun. 8	Last day to change Second Term grades
Thu., Jun. 9	Last day to withdraw with record of W from first session courses
Wed., Jun. 22	Last day of classes
Thu.-Sat., Jun. 23-25	Examinations
Sat., Jun. 25	First session ends after final examinations
Mon., Jun. 27	Grades due in Registrar's Office at 9:00 a.m.

THIRD TERM — SECOND SESSION

Fri., Jun. 24	Last day to complete registration
Mon., Jun. 27	Classes begin at 8:00 a.m.
Thu., Jun. 30	Last day for late registration, change of grading options and schedules
Fri., Jul. 1	Last day to submit candidacy for graduation in August
Mon., Jul. 4	Independence Day—no classes
Thu., Jul. 7	Last day to withdraw without record from second session courses
Mon., Jul. 25	Last day to withdraw with record of W from second session and full third term courses
Fri., Jul. 29	Last day to change first session grades
Thu., Aug. 4	Last day of classes
Fri.-Sat., Aug. 5-6	Examinations
Fri., Aug. 5	Senior grades due
Sat., Aug. 6	Second session ends after final examinations
Sun., Aug. 7	Diploma Exercises
Mon., Aug. 8	Grades due in Registrar's Office at 9:00 a.m.
Fri., Sept. 9	Last day to change second session grades

1994-95 PROPOSED ACADEMIC CALENDAR

FIRST TERM

Sat.-Tue., Aug. 20-23	New Student Orientation
Wed., Aug. 24	Classes begin at 8:00 a.m.
Mon., Sept. 5	Labor Day—no classes
Mon., Oct. 10	Columbus Day—no classes
Tues., Nov. 1	All Saints Day—no classes
Wed., Nov. 23	Thanksgiving recess begins after last class
Mon., Nov. 28	Classes resume at 8:00 a.m.
Tue., Dec. 6	Last day of classes.
Wed., Dec. 7	Study Day
Thu., Dec. 8	Feast of Immaculate Conception—Christmas on Campus
Fri.-Thu., Dec. 9-15	Examinations
Sat., Dec. 17	Diploma Exercises

SECOND TERM

Wed., Jan. 4	Classes begin at 8:00 a.m.
Mon., Jan. 16	Martin Luther King Jr. Day—no classes
Mon., Feb. 20	Presidents' Day—no classes
Fri., Mar. 10	Spring Break begins after last class
Mon., Mar. 20	Classes resume at 8:00 a.m.
Thu., Apr. 13	Easter recess begins after last evening class
Tue., Apr. 18	Classes resume at 8:00 a.m.
Wed., Apr. 26	Last day of classes.
Thu., Apr. 27	Study Day
Fri.-Thu., Apr. 28-May 4	Examinations
Sun., May 7	Commencement

THIRD TERM—FIRST SESSION

Thu., May 11	Classes begin at 8:00 a.m.
Thu., May 25	Ascension Thursday — classes will be held
Mon., May 29	Memorial Day—no classes
Tue., Jun. 20	Last day of classes
Wed.-Thu., Jun. 21-22	Examinations

THIRD TERM—SECOND SESSION

Fri., Jun. 23	Classes begin at 8:00 a.m.
Tue., Jul. 4	Independence Day—no classes
Wed., Aug. 2	Last day of classes
Thu.-Fri., Aug. 3-4	Examinations
Sat., Aug. 5	Diploma Exercises

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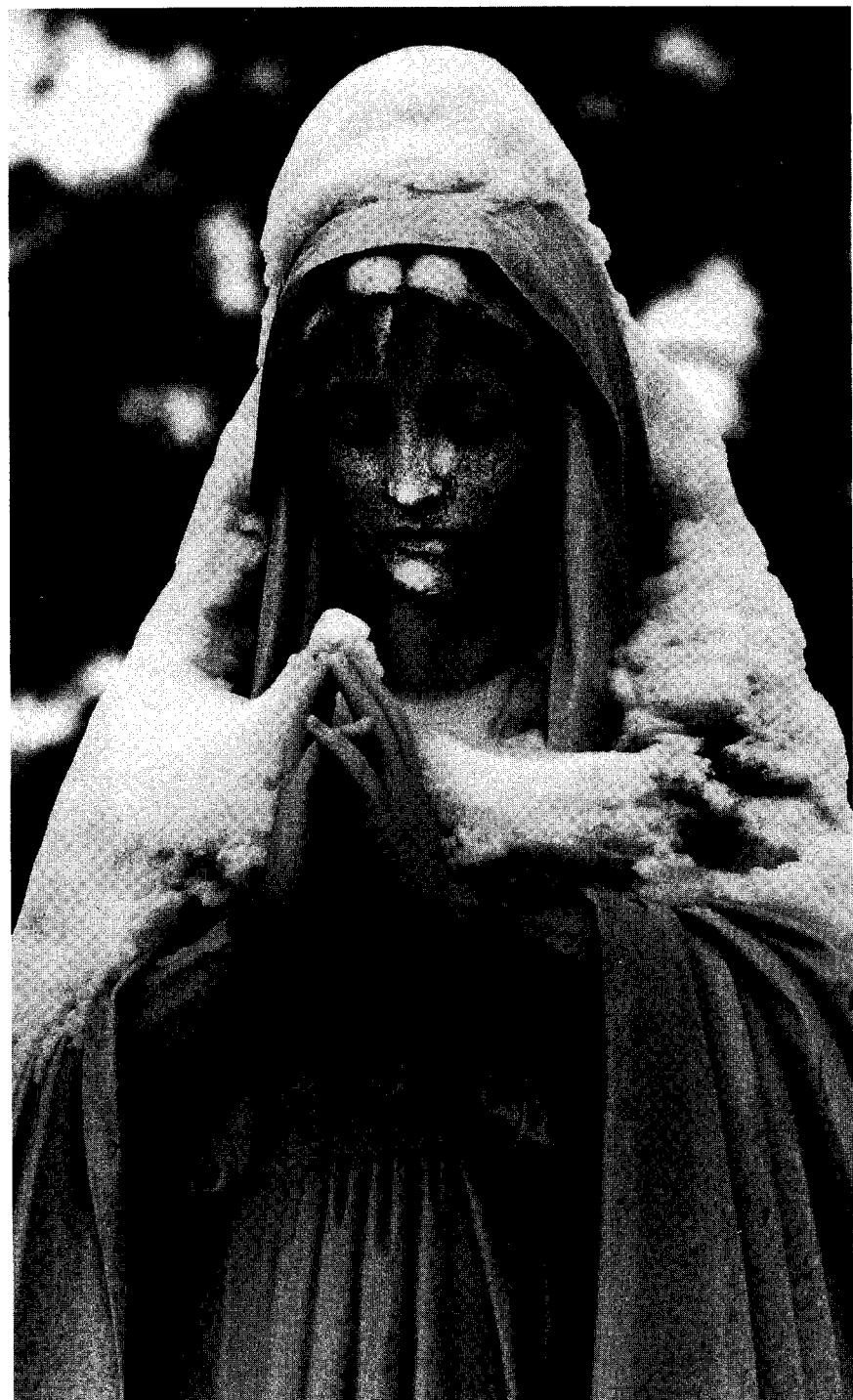
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Map to the University of Dayton Campus	Inside back cover



I The University of Dayton

Founded in 1850

The University of Dayton is a private, coeducational school founded and directed by the Society of Mary (the Marianists), a Roman Catholic teaching order.¹ It is among the nation's largest Catholic institutions of higher learning. Aware of the richness of cultural diversity, representatives of many faiths are numbered among the University faculty and students. For the same reason, the University has consciously drawn its students and faculty not only from the immediate community and the middle-western neighborhood, but from across the country and from numerous foreign countries.

The main campus, of over a hundred landscaped acres, is on a hill overlooking the city of Dayton, Ohio. The buildings are a pleasantly eclectic architectural mixture of old and new, all well equipped. The faculty, both lay and religious, are well qualified and competent to provide their students with excellent instruction and prudent counseling. The University's policy of tempered discipline encourages students to use responsible judgment and conduct in the pursuit of academic and professional excellence.

A lively, friendly atmosphere; numerous and varied religious, cultural, and social opportunities; an early-semester calendar allowing a number of study-recess options; intercollegiate and intramural athletic programs for both men and women; academic options such as honors programs, independent study, and study abroad; academic, professional, and personal counseling; cooperative work-study plans; a placement service for students and graduates—these exemplify the myriad aspects of the character of the University of Dayton.

BRIEF HISTORY

In the summer of 1849, Father Leo Meyer and Brother Charles Schultz, the first Marianist missionaries to America, journeyed from Alsace to Cincinnati, where they intended to establish a base for the order in this country. But they arrived during an epidemic of cholera, and Bishop John Purcell of Cincinnati soon sent Father Meyer to Dayton, to minister to the sick of Emmanuel Parish. Here he met John Stuart, whose little daughter died of cholera the year before. Mr. Stuart wanted to sell his Dayton property and return with his wife to Europe. On March 19, 1850, the feast of St. Joseph, Father Meyer purchased Dewberry Farm from him and renamed it Nazareth. Mr. Stuart accepted a medal of St. Joseph and a promise of \$12,000 at 6% interest in return for 125 acres, including vineyards, orchards, a mansion, and various farm buildings. Meanwhile, more Marianists arrived, and Nazareth became the first permanent foundation of the Society of Mary in the western hemisphere.

The University of Dayton had its earliest beginnings on July 1, 1850, when St. Mary's School for Boys, a frame building that not long before had housed farm

¹The Society of Mary, founded in France in 1817 by Father William Joseph Chaminade, presently conducts schools throughout the United States and in Africa, Canada, Europe, India, Japan, Korea, and Central and South America. The Society operates Chaminade University in Honolulu and St. Mary's University in San Antonio.

hands, opened its door to fourteen primary students from Dayton. In September, the classes moved to the mansion, and the first boarding students arrived. Father Meyer was administrator, Brother Maximin Zehler was teacher, Brother Schultz was cook, and Brother Andrew Edel was farmer-gardener.

Five years later the school burned to the ground, but within a year classes resumed. By 1860, when Brother Zehler became president, enrollment approached one hundred. The Civil War had little direct effect on the school; most of the students were too young to serve. St. Mary's grew; college preparatory courses were started in 1861; then came a novitiate and a normal school for Marianist candidates. An old history refers to the period of 1860-75 as "the brick-and-mortar years." The Chapel of the Immaculate Conception was completed in 1869. In 1870, visitors marveled at new St. Mary's Hall, the largest building in Dayton, and called it "Zehler's Folly." The new "college department" moved into it in 1871. (St. Mary's Hall is now listed in the National Register of Historic Places.)

In 1882, the institution was incorporated and empowered to confer collegiate degrees under the laws of the State of Ohio. In 1883, another devastating fire visited the campus, but this time some of the buildings were saved. The statue now known as Our Lady of the Pines was erected in gratitude, and the following year St. Joseph's Hall was built, symbolizing the renewed confidence of the Dayton Marianists. In a more famous emergency, the school was spared by water as it had not been by fire. Because of its hillside location, it survived the Great Flood of 1891 untouched and was able to give shelter to 600 refugees.

St. Mary's had reorganized in 1902 into four departments—classical, scientific, academic, and preparatory. In 1905 it added the Commercial Department, which would become the Department of Commerce and Finance in 1921, the Division of Business Organization in 1924, and ultimately the School of Business Administration. Four engineering departments, appearing from 1909 to 1920, were to become the Engineering Division. In 1915, the Marianist training program (novitiate and normal school) was moved to Mount St. John's (now Bergamo Center).

Known at various times as St. Mary's School, St. Mary's Institute, and St. Mary's College, the school assumed its present identity in 1920, when it incorporated as the University of Dayton. The same year, the elementary division was closed, the Division of Education was organized, and the University started its tradition of evening and Saturday classes, to serve the adult members of the surrounding community. In 1922, the College of Law opened, also with evening classes. Other graduate programs followed, to augment the professional degree programs which distinguished the University from many of Ohio's other independent institutions of higher learning. In 1923, the first summer session was held; its classes, like those of the law college were open to women as well as men.

The 1930s, with the Great Depression, were in many ways a time of retrenchment for the University of Dayton as for most other American schools. But the Dayton Marianists had survived cholera, smallpox, and influenza, wars, fire and flood, and (in 1924) a Ku-Klux-Klan cross-burning on the campus. In 1935, even as the University turned its preparatory school functions over to Chaminade High School and graduated what was to be its last class in law for almost forty years, it inaugurated a college for women, with sisters of Notre Dame in charge of twenty-seven entering female students. Two years later, the college for women closed; all divisions opened to women, and the University became fully co-educational.

Enrollment had passed a thousand when World War II broke out. By 1950, with the return of the veterans, it was more than 3,500. In 1967, it was over 10,000. But then, with the expansion of a community college and the establishment of a state university nearby, enrollment declined, and the resulting retrenchment was exacerbated by rising inflation and the energy crisis. Nor did the social turbulence and

activism of the late 1960s and early 1970s bypass the University of Dayton. Some students and faculty protested against the Vietnam War, compulsory ROTC, and defense-related research activities. They campaigned also for changes in the curriculum, seeking more opportunities for meeting personal needs and goals. In response, the University gave greater responsibility to students for their own academic decisions, and it initiated interdisciplinary programs, self-directed learning, and various experimental courses and methods. Meanwhile, the profile of the student body changed. The 1960s saw significant increases in female and minority students. In the 1970s, there was a shift to a largely residential student body, and at the same time many more "nontraditional" (older) students matriculated. By the mid-1970s, total enrollment steadied at over 10,000, with about 6,000 full-time undergraduates.

To keep pace with the University's growth, a series of building programs has more than tripled the number of major facilities since the Centenary Year of 1950. The University held its first general public campaign in order to erect Wohlleben Hall in 1958 and Sherman Hall in 1960. Both campus and off-campus residences — dormitories, apartments, and houses — were added and improved as such emergency accommodations as surplus Army barracks and an adapted Army hospital (renamed the West Campus) were phased out.

A long-range environmental design has helped integrate new buildings and old, and made the campus more livable by increasing its beauty as well as its efficiency. In 1986, old and new combined in the much heralded architectural design of the Anderson Center between Rike Hall and Miriam Hall. When fire ravaged St. Joseph Hall in 1987, the University was able to rebuild and restore it without harming the architectural integrity of that historic corner of campus. Keeping pace with the needs of the University, the Jesse Phillips Humanities Center opened in 1993, and plans are in the making to revitalize the University's existing science complex. Opening in the mid-1990's, longterm development includes the construction of new facilities for the School of Law on the northwest property of the University.

The edifices are not the only changes seen at the University of Dayton. In 1960, the University reorganized academically and administratively. Administrative changes saw the formation of the College of Arts and Sciences from what had been two separate units. Other divisions became the Schools of Business Administration, Education and Engineering. In 1970, the University charter was amended and members from the lay community now joined the Marianists (who today constitute 20 percent of the governing body of the University), on the Board of Trustees. In 1974, when the School of Law reopened, the University achieved its present configuration.

Academically, the University has continued to expand and enrich its offerings and support services, especially since mid-century. Graduate studies, abandoned during World War II, resumed in 1960, with the School of Education leading the way. In 1969, the Department of Biology inaugurated the first doctoral program since 1928. The School of Engineering introduced two doctoral programs in 1973, and in December, 1992, the first doctoral degrees in Educational Leadership were awarded.

In 1975, the Marian Library, which had grown to international reknown since its inception in 1943, founded the International Marian Research Institute (IMRI), which was incorporated in 1984 as a branch of the Marianum in Rome. IMRI is empowered to confer licentiate and doctoral degrees in theology, with a specialization in Mariology.

For all undergraduates, a general education plan was adopted in 1983 to foster integration of the liberal arts in a professional education. To further this course of action, in 1990, the Academic Senate approved a revision of the general education requirements

that called for an integrated base of four humanities courses complemented by clusters of other courses, requiring various disciplines to focus on a single theme.

In 1986, the School of Business Administration established the Center for Business and Economic Research. With an advanced information systems laboratory among its resources, the center provides contract research services for local business, government, and other organizations and support for faculty research.

The University has always maintained a tradition of innovation. In 1874, St. Mary's Institute's new Play House gymnasium was the only one of its kind in Ohio, and it is probable that the first organized basketball game in the state took place there. A system of elective studies was inaugurated in 1901. In 1924, the University was the first school to be granted a charter by the National Aeronautical Association. It was one of the first in the nation to offer a course in biophysics (1935). In 1948, it was a pioneer in student ratings of professors, and in 1952, it invited persons over 60 to attend its evening classes as guests. It was one of the first educational institutions to adopt electronic data-processing equipment and to offer degrees in computer science. The University Library, in the service of scholarship, continues to adopt new technology, including an online catalog which became fully operational in 1988. Its graduate program in laser optics was one of the earliest in the country.

But more than just a breeding ground for academic excellence, the University responds to the needs of the surrounding communities as well. Sponsored research at the University began in 1949 with a few faculty members and student assistants doing part-time research for industry and government agencies. In 1956, the University of Dayton Research Institute was formed to consolidate the administration of the growing research activities. Annual research volume has increased from \$3,821 in 1949, to nearly \$45 million at the present time.

STATEMENT OF PURPOSES

Approved by the Board of Trustees, May 14, 1969.

The University of Dayton, by tradition, by legal charter, and by resolute intent, is a church-related institution of higher learning. As such, it seeks, in an environment of academic freedom, to foster principles and values consonant with Catholicism and with the living traditions of the Society of Mary. Operating in a pluralistic environment, it deliberately chooses the Christian world-view as its distinctive orientation in carrying out what it regards as four essential tasks: teaching, research, serving as a critic of society, and rendering public service.

The University of Dayton has as its primary task to teach—that is, to transmit the heritage of the past, to direct attention to the achievements of the present, and to alert students to the changes and challenges of the future. It regards teaching, however, as more than the mere imparting of knowledge; it attempts to develop in its students the ability to integrate knowledge gained from a variety of disciplines into a meaningful and viable synthesis.

The University of Dayton holds that there is harmony and unity between rationally discovered and divinely revealed truths. Accordingly, it commits its entire academic community to the pursuit of such truths. It provides a milieu favorable to scholarly research in all academic disciplines, while giving priority to studies which deal with problems of a fundamentally human and Christian concern. It upholds the principle of responsible freedom of inquiry, offers appropriate assistance to its scholars, and endeavors to provide the proper media for the dissemination of their discoveries.

The University of Dayton exercises its role as critic of society by creating an

environment in which faculty and students are free to evaluate, in a scholarly manner, the strengths and weaknesses found in human institutions. While, as an organization, it remains politically neutral, objective, and dispassionate, it encourages its members to judge for themselves how these institutions are performing their proper tasks; to expose deficiencies in their structure and operation; to propose and actively promote improvements when these are deemed necessary.

The University of Dayton recognizes its responsibility to support, with means appropriate to its purposes, the legitimate goals and aspirations of the civic community and to cooperate with other agencies in striving to attain them. It assists in promoting the intellectual and cultural enrichment of the community; it makes available not only the resources of knowledge that it possesses, but also the skills and techniques used in the accumulation and dissemination of knowledge; and, above all, it strives to inspire persons with a sense of community and to encourage men and women of vision who can and will participate effectively in the quest for a more perfect human society.

BASIC ACADEMIC STRUCTURE OF THE UNIVERSITY

The University of Dayton now includes the College of Arts and Sciences and four professional schools, each with a dean: the School of Business Administration, the School of Education, the School of Engineering (including Engineering Technology), and the School of Law. The deans, through their departmental chairpersons, administer the undergraduate and graduate programs. The vice president for graduate studies and research and dean of graduate studies has the overall responsibility for all graduate programs. At the head of the academic structure of the University is the provost.

The University of Dayton awards the following baccalaureate, professional, and graduate degrees:

- | | |
|---|--|
| Bachelor of Arts | Master of Science in Chemical Engineering |
| Bachelor of Chemical Engineering | Master of Science in Civil Engineering |
| Bachelor of Civil Engineering | Master of Science in Education |
| Bachelor of Electrical Engineering | Master of Science in Electrical Engineering |
| Bachelor of Fine Arts | Master of Science in Electro-Optics |
| Bachelor of General Studies | Master of Science in Engineering |
| Bachelor of Mechanical Engineering | Master of Science in Engineering Management |
| Bachelor of Music | Master of Science in Engineering Mechanics |
| Bachelor of Science | Master of Science in Management Science |
| Bachelor of Science in Art Education | Master of Science in Materials Engineering |
| Bachelor of Science in Business Administration | Master of Science in Mechanical Engineering |
| Bachelor of Science in Education | Master of Science in Teaching |
| Bachelor of Science in Engineering Technology | Educational Specialist |
| Master of Arts | Juris Doctor |
| Master of Business Administration | Doctor of Engineering |
| Master of Clinical Laboratory Technology | Doctor of Philosophy in Biology |
| Master of Computer Science | Doctor of Philosophy in Educational Leadership |
| Master of Public Administration | Doctor of Philosophy in Engineering |
| Master of Science | |
| Master of Science in Aerospace Engineering | |
| Master of Science in Applied Mathematical Systems | |

College of Arts and Sciences

The College of Arts and Sciences includes the following departments and programs: American Studies, Biology, Chemistry, Communication, Computer Information Systems, Computer Science, Criminal Justice, Economics, English, General Studies, Geology, History, Human Ecology, International Studies, Languages, Mathematics, Medical Technology, Military Science, Music, Philosophy, Physical Science, Physics, Political Science, Psychology, Religious Studies, Sociology, and Visual Arts.

Preprofessional courses are offered in medicine, dentistry, dietetics, optometry, veterinary medicine, music therapy, law, foreign service, and radio and television broadcasting. The programs leading to the Bachelor of Science with majors in Medical Technology and Nuclear Medicine Technology are operated in cooperation with nearby hospitals. The clinical programs are accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association through the National Accrediting Agency for Clinical Laboratory Sciences.

Programs leading to the Master of Arts or the Master of Science are offered in American studies, biology, chemistry, communication, English, history, humanities, mathematics, pastoral ministry, philosophy, political science, psychology, and theological studies. The Department of Computer Science offers the Master of Computer Science. The Department of Physics, as part of the Center for Electro-Optics, offers graduate courses in support of the Master of Science in Electro-Optics. The Interdisciplinary professional degree Master of Public Administration is also offered. The Department of Biology offers the Doctor of Philosophy.

School of Business Administration

The School of Business Administration offers undergraduate majors in accounting, economics, finance, management, management information systems, and marketing. On the graduate level, the School awards the Master of Business Administration degree.

School of Education

The School of Education prepares teachers for the elementary and secondary levels and for specialized fields such as art, music, speech, business, health and physical education, and education of the handicapped. It conducts retraining and post-graduate programs and offers graduate programs leading to the degrees of Master of Science in Education, Master of Science in Teaching, Educational Specialist, and Doctor of Philosophy in Educational Leadership. These programs are designed to prepare school administrators, school counselors, school nurse educators, school psychologists, elementary teachers, high school teachers, and special educators for both public and private schools nationwide.

School of Engineering

The School of Engineering includes the Departments of Chemical and Materials Engineering, Civil and Environmental Engineering and Engineering Mechanics, Electrical Engineering, and Mechanical and Aerospace Engineering. The School

offers four-year curricula leading to the degrees of Bachelor of Chemical Engineering, Bachelor of Civil Engineering, Bachelor of Electrical Engineering, and Bachelor of Mechanical Engineering. The School offers graduate programs leading to the degrees of Master of Science in Engineering, Master of Science in Aerospace Engineering, Master of Science in Chemical Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Electro-Optics, Master of Science in Engineering Management, Master of Science in Engineering Mechanics, Master of Science in Management Science, Master of Science in Materials Engineering, Master of Science in Mechanical Engineering, Doctor of Engineering, and Doctor of Philosophy in Engineering.

The Engineering Technology Division of the School of Engineering includes the Departments of Chemical Technology, Electronic Engineering Technology, and Mechanical Engineering Technology. Engineering Technology offers four-year bachelor's degree curricula in chemical process technology, electronic engineering technology, environmental engineering technology, industrial engineering technology, mechanical engineering technology, and manufacturing engineering technology.

Engineering service courses within the School provide course work and programs in certain areas of concentrated study for both engineering and non-engineering majors.

School of Law

The University of Dayton School of Law offers the Juris Doctor and two joint degree programs: Juris Doctor-Master of Business Administration and Juris Doctor-Master of Science in Education (Educational Administration).

LIBRARIES

The University of Dayton Roesch Library houses the University Library with its book, journal, government documents, and microform collections for both graduate and undergraduate students. The University Library's main collections are automated and available through an online public access catalog. Its holdings number 1,000,000 resource items including its 5,000 journal titles. The Marian Library, other rare and special collections, and the University Archives are also part of this facility. It is open 98 hours a week, provides almost continuous reference service, and offers online bibliographic searching. Comfortable study areas are convenient to the open stacks, and typewriters, photocopiers, seminar rooms, and faculty and graduate student carrels are available. The Libraries are a member of OhioLINK, a cooperative venture of university libraries and the Ohio Board of Regents. By 1994 the seventeen OhioLINK members will have created a common information network providing rapid physical and telefacimile access and delivery to over 7,000,000 volumes and numerous research databases.

The Marian Library, on the seventh floor of the Roesch Library building, houses the world's largest collection of works on the Virgin Mary. Its resources in over fifty languages include 71,000 books and pamphlets (some 6,000 printed before 1800), 125 periodicals, a clipping file of over 52,000 items, and a growing number of microforms. These works are supplemented by smaller collections: slides, medals, post-

cards, postage stamps, and illustrations of various kinds. In addition to these materials dealing with Mariology, the library has significant holdings in national and regional bibliographies, reference works on the Bible, ecclesiastical and dogmatic history, church art (especially of the Eastern Churches and Medieval Europe), and the history of the book.

The University of Dayton School of Law Library is located on the ground floor of the Roesch Library building and is connected with the Law School Building (Albert Emanuel Hall). Its collection contains over 150,000 volumes and 63,000 physical units of microforms. The open-stack arrangement of the Law Library permits easy access to all materials.

The University Media Centers are in the Jesse Phillips Humanities Center, Chaminade Hall, and Miriam Hall. All provide a range of audio-visual equipment to classrooms. Consultative assistance in the effective use of instructional media and technology is available from the director's office located in the Jesse Phillips Humanities Center.

The Curriculum Materials Center, which houses the specialized collections of the School of Education, is on the first floor of Chaminade Hall. It offers a wide selection of elementary and secondary textbooks, filmstrips, records, transparencies, cassettes, charts, material kits, and teaching aids.

The University's active membership in the Online Computer Library Center and the Southwestern Ohio Council for Higher Education has significantly augmented the library resources available to its students. Some libraries in the Council will lend materials directly to students from other schools; others require interlibrary loan forms, which may be secured from one of the reference librarians.

ACCREDITATION

The University of Dayton is officially accredited by the following agencies:

The Accreditation Board for Engineering and Technology, Inc., for the programs in chemical, civil, electrical, and mechanical engineering and in electronic, industrial, manufacturing engineering technology, and mechanical engineering technology

The American Assembly of Collegiate Schools of Business for the baccalaureate and Master of Business Administration programs of the School of Business

The American Bar Association for its School of Law

The Association of American Law Schools for its School of Law

The Computer Science Accreditation Commission

The National Association of Schools of Music

The Computer Science Accreditation Commission of the Computing Sciences

Accreditation Board for the program in Computer Science

The National Council for Accreditation of Teacher Education

The North Central Association of Colleges and Schools

The State of Ohio Department of Education

The University has the approval of the following:

The American Chemical Society for its program in chemistry

The American Dietetic Association (Program S8) in human ecology

The National Association for Music Therapy

The League of Ohio Law Schools for its School of Law

INSTITUTIONAL MEMBERSHIP

The University holds institutional membership in the following:

The Academy of Criminal Justice Sciences
The American Assembly of Collegiate Schools of Business
The American Association for Higher Education
The American Association of Colleges for Teacher Education
The American Association of Collegiate Registrars and Admissions Officers
The American Association of University Administrators
The American Council on Education
The American Dietetics (Program 8) in Human Ecology
The American Home Economics Association
The American Library Association
The American Society of Criminology
The American Society for Engineering Education
The Association of American Colleges
The Association of American Law Schools
The Association of Catholic Colleges and Universities
The Association of College and University Housing Officers
The Association of Governing Boards of Universities and Colleges
The Association of Independent Colleges and Universities of Ohio
The Catholic College Coordinating Council
The College Entrance Examination Board
The College and University Personnel Association
The Comparative and International Education Society
The Cooperative Education Association
The Council for Support and Advancement of Education
The Council for the Advancement of Experiential Learning
The Council of Graduate Schools
The Dayton Area Chamber of Commerce
The Dayton Art Institute (sponsoring)
The Institute of International Education
The League of Ohio Law Schools
The Midwestern Criminal Justice Association
The National Association of College and University Food Services
The National Association of College Auxiliary Services
The National Association for Foreign Student Affairs
The National Association of Independent Colleges and Universities
The National Association of Student Personnel Administrators
The National Catholic Education Association
The National Council of Catholic Bishops
The National Scholarship Service and Fund for Negro Students
The North Central Association of Colleges and Schools
The Ohio Academy of Science
The Ohio Association of Colleges for Teacher Education
The Ohio Association of Private Colleges for Teacher Education
The Ohio College Association
The Ohio Continuing Higher Education Association
The PBS Adult Learning Satellite Service
The Society for the Advancement of Education
The Southwestern Ohio Council for Higher Education

SOUTHWESTERN OHIO COUNCIL FOR HIGHER EDUCATION

Several corporations and numerous institutions of higher learning, including the University of Dayton, have organized the Southwestern Ohio Council for Higher Education (SOCHE). The participating institutions seek to increase inter-institutional cooperation, improve curricula, develop new courses and programs, share library resources, minimize cost, and centralize selected functions, by using computers, modern educational technology, and communication media.

Among the benefits of the Council is that regularly enrolled full-time students at one institution, under certain conditions, may register for credit at no additional charge in courses offered by other Council institutions in which no instruction is available at their own institution. Also available through the Council is the Air Force ROTC program.

RELATED UNIVERSITY SERVICES

Besides the regular day sessions, the University conducts special as well as regular evening and summer sessions and offers short-term workshops, institutes, and conferences. All credited courses, whenever offered or in whatever form, conform to the same standards and are governed by the same policies and regulations prevailing during the regular day sessions.

University Continuing Education especially serves the part-time students of the Dayton community, to make the University and its course offerings, both credit and noncredit, more easily available to them. Similarly, the Office of International Services serves students from other countries who are enrolled at the University.

To foster interdisciplinary efforts, the Office of the Provost administers courses designated UDI (University of Dayton Interdisciplinary) to accommodate interschool offerings and experimental programs. (UDI courses are listed and described in Chapter X, as are other special offerings.)

The Research Institute, an integral, not a separate, component of the University of Dayton, provides important resources and reinforcement for all levels of academic endeavor, as does the Office for Computing Activities. (See Chapter X.) A unit of the Reserve Officers Training Corps, also based on the campus, offers its academic program through the Department of Military Science. (See MIL, Chapter VI.)

ACADEMIC CALENDAR YEAR

The University of Dayton operates under an early semester, split third-term calendar. The academic year begins with the fifteen-week fall term, which ends before Christmas. The winter term, also fifteen weeks, begins in January and ends early in May. The third, or spring-summer term, is split into two complete sessions of six weeks each.

The advantages of such a calendar are many. Students may enroll for the traditional fall and winter semesters and have a four-month summer vacation; or they may add half terms or full terms to enrich their programs or speed the completion of their graduation requirements. (The University holds graduation ceremonies at the end of each term.) Students who must earn their own money can have extra time for employment in spring and summer; or they may enroll for the third term and work during the fall or the winter term, when the employment market is not crowded with other college students.

II Student Life and Services

OFFICES OF RESIDENCE LIFE AND HOUSING

One of the most challenging experiences a student can have at the University is residential living. The University strives to provide a secure and pleasant environment. Respect for the rights of other people and a willingness to cooperate contributes to an atmosphere of friendliness and mutual respect that encourages academic success and is socially rewarding.

Professional and graduate and undergraduate student staffs coordinate with the Offices of Residence Life and Housing in administering University residence halls, suites, houses, and apartments. An elected hall council represents students' opinions and initiates programs in each facility. Counseling and consultation, as well as the celebration of Mass, are provided in the residence halls by Campus Ministry.

While junior and senior students may arrange their own housing either on or off campus, first-year and sophomore students are required to live in the University residence system unless they are married, are twenty-one years of age or over, or are local residents living with their families.

Upon their official acceptance to the University of Dayton, the Office of Admission sends all new students applications, contracts, and instructions for residence hall accommodations. However, any questions about obtaining housing should be directed to the Housing Office. Questions about life in the residence halls should be directed to the Office of Residence Life.

FOOD SERVICES

The University of Dayton Food Services operates three full-service student dining facilities located in Kennedy Union, Marycrest Complex, and the Virginia W. Kettering Residence Hall. Students may use their meal cards, in any of these facilities during scheduled meal hours. The Kennedy Union Food Court, Kennedy Union Food Shops, Court Pizza Delivery, Side-Pocket Snack Bar, Marycrest Snack Bar, and Stuart Hall Snack Bar operate evenings and weekends to provide service during hours when the traditional dining rooms are closed.

All students living in traditional residence halls are required to purchase a meal plan. Meal plan options are as follows:

Any 15 Meal Plan provides any 15 meals, breakfast, lunch and dinner, Wednesday through Tuesday during regular scheduled meal hours.

Any 10 Meal Plan provides any 10 meals, breakfast, lunch and dinner, Wednesday through Tuesday during regular scheduled meal hours.

5 Day Meal Plan provides 15 meals, breakfast, lunch and dinner, Monday through Friday during regular scheduled meal hours.

In addition to the selected meal plan, most resident students open a declining balance account to supplement their needs beyond the scheduled meal periods.

UNIVERSITY ACTIVITIES

The Office of University Activities sponsors and coordinates campus-wide extracurricular and co-curricular activities to enrich and enhance academic life and

foster a spirit of community. It is the central resource for information about activities and student organizations and for campus-wide programming of activities. The Student Activities Advisory Council grants recognition to student organizations, ensures organizational conformity to University policies, and offers programming in leadership education. Student program coordinators are responsible for developing educational, cultural, and social events including the Christmas on Campus celebration.

Members of the staff of University Activities chair the Distinguished Speakers Series, co-chair the Writers' Workshop and Homecoming, and are involved in other University-wide programming such as the Arts Series. University Activities sponsors educational forums on current issues, exhibits in the Kennedy Union Art Gallery, summer activities programs, and Pub entertainment. It maintains a monthly calendar that lists campus events and musical, dramatic, artistic, and other public events in the Dayton community. Display cases in Kennedy Union and a portable sound system may be reserved through the office.

KENNEDY MEMORIAL UNION

The Kennedy Memorial Union, centrally located on the campus, offers comfortable surroundings and a variety of services for the University community. Lounges provide free space for discussion, studying, and socializing. The Union operates a games room with bowling lanes, pool tables, and video games. The ground-floor food court includes a pizzeria, a bakery, a delicatessen, a mini-snack bar, and a pub. A candy counter offers bulk candy, snack items, and check cashing. Three automatic tellers, display cases, and vending machines are housed in the Union, as are offices for Student Government Association, *Flyer News*, *Daytonian*, WDCR, SAAC, UAO, and Pub entertainment and a lounge for the Commuter Club. Other offices in the Union are those of the Arts Series, Continuing Education, KU Food Service, and the Wagon-Lits Travel Agency. Meeting rooms, a ballroom, and a theatre are available for use. Numerous and varied cultural, educational, social, and recreational activities are presented in the Union regularly. Among the continuing programs are recitals and concerts by students and faculty, theatrical productions, and dance ensemble concerts.

STUDENT HEALTH CENTER

During the academic year, the Student Health Center, in Gosiger Hall, is staffed 24 hours a day, seven days a week, to provide a broad range of medical services to students. A full-time physician is available for consultation every weekday. The Health Center maintains a large stock of commonly used medicines, dispensing these to patients by order of the physician. The Health Center Infirmary provides facilities for bed care for students too ill to take care of themselves but not requiring hospitalization, and for isolation of patients with certain communicable diseases.

All full time students are eligible for the student accident and sickness insurance program. Each student receives information about the insurance program late in the summer.

CAMPUS MINISTRY

Campus Ministry seeks to lead the University in fostering an active faith com-

munity among its members. This faith is manifested in personal and communal devotion to God, especially as revealed in Jesus Christ; in common worship; in the growing awareness of religious values and response to issues of social justice; and in service to the community and the Church.

In order to realize this goal, Campus Ministry, in cooperation with other segments of the University, provides a number of services to all who are part of the University community. It provides opportunities for prayer, for the celebration of the sacraments, for retreat experiences, and for pastoral counseling. It sponsors events, classes, and seminars that concern the deepening of faith, the awareness of social justice issues, and opportunities for ministry—with special emphasis on student-to-student ministry. It coordinates the efforts of almost two dozen student organizations that offer opportunities for service to the local community and beyond. Though specifically Roman Catholic, it cooperates with and helps foster other religious groups on campus.

ATHLETICS

Many people throughout the country have come to know the University of Dayton through the accomplishments of its intercollegiate athletic teams. Participation in athletics is part of the educational development the University offers all students. There are nine men's intercollegiate sports: football, soccer, golf, cross country, and water polo in the fall; wrestling and basketball in the winter; and baseball and tennis in the spring. There are seven women's intercollegiate sports: volleyball, tennis, soccer, cross country and golf in the fall; basketball in the winter; and softball and golf in the spring. Cheerleading tryouts, open to all students, are held each year.

Any athlete—male or female—who anticipates trying out for any varsity sport must submit a complete physical and medical history, signed by a doctor, before he or she may participate in any tryouts.

Welcome Stadium and the UD Arena are the focal points of intercollegiate activity. Welcome Stadium, carpeted with Astroturf, seats 12,000 for football games, and the UD Arena seats 13,500 for basketball.

INTRAMURAL AND RECREATIONAL SPORTS

The Recreational Sports Department provides a variety of intramural activities in which anyone can find exercise surrounded by a unique spirit of fun and competition. Activities include softball, football, indoor soccer, volleyball, basketball, tennis, racquetball and many others. All students are invited to participate; ability is not important—just the desire to play. The Intramural Office is located on the second floor of the Physical Activities Center and students are invited to stop in at any time.

The Thomas J. Frericks Center/Physical Activities Center houses intramural competition, informal recreation and sports club. Inside the PAC is a 25-yard pool, handball, racquetball, and squash courts, men's and women's carpeted locker rooms, weight rooms, one tennis court, and three basketball courts surrounded by a 1/9 mile track. A student lounge overlooks both the Collins Gymnasium and Lackner Natatorium. The PAC is connected to the Thomas J. Frericks Athletic and Convocation Center where there are an additional free weight room, four basketball and volleyball courts, a multi-use room, and a modern conditioning center.

One of the quickly developing features of the Recreational Sports Department is the Sports Club Program. Currently, there are seventeen recognized clubs on campus. The Sports Club Program offers students the opportunity to participate on a competitive level, while at the same time learning and developing new skills. Anyone interested in joining a sport club or starting a new one is encouraged to come in and speak with the Sports Club coordinator.

Students are permitted to use the University's recreational facilities whenever they are not being used for organized programs such as classes, intercollegiate practices or games, intramural sports and special events. Schedules concerning free play hours and scheduled events may be secured from the Recreational Sports office.

COUNSELING CENTER

The main purpose of the Counseling Center is to assist students in self-development, including career planning, personal adjustment, and social skills building. All students in need of objective insights or merely "a listening ear" are encouraged to make use of the Center's services. No concern of the student is too minor to explore. This is usually accomplished through one-to-one counseling, though there are opportunities for group interaction on certain topics and outreach programming for student, faculty, and staff groups. The Center also provides career and personality testing services.

Because counseling often involves sensitive personal matters, discussions between counselors and students are strictly confidential. An exception occurs when students who have life-threatening problems are required to receive psychiatric evaluation and/or counseling. Such problems may include but are not limited to suicide attempts, chemical dependency, anorexia nervosa, bulimia nervosa, and psychotic behavior. The University and the student may enter into a contract to establish conditions regarding required treatment. The student may decide to use the services offered by the University or to receive treatment elsewhere. In the latter case, periodic review by the University is required to confirm that contract conditions are met. For the welfare of the student, problems warranting treatment more intensive than the University can offer may require temporary medical withdrawal from the University. The student may be readmitted to the University upon acceptable completion of contract conditions. In life-threatening circumstances, the University assumes the position that the parents or guardians of the student should be notified, and it will initiate such notification if the student has not done so within an appropriate time or refuses to do so. Life threatening problems involving minor students are cause for immediate notification of parents or guardians.

A one-time counseling fee charged to all matriculating undergraduate students covers the cost of services by the Counseling Center while they are at the University. Graduate and nonmatriculated undergraduate students pay nominal charges on a fee-for-service basis. The Center is accredited by the International Association of Counseling Services, Inc.

ALCOHOL AND DRUG AWARENESS PROGRAM

This program provides education and information to the University community on the topic of alcohol and drug use, misuse, and abuse. One goal is to promote responsible decision making by students. A major project is participation in National Collegiate Alcohol Awareness Week during the fall of each year.

SERVICES FOR DIVERSE STUDENT POPULATIONS

The University of Dayton is committed to creating a community that celebrates cultural diversity while focusing on the Marianist philosophy of service, leadership and community. The division of Student Development, under the leadership of an Associate Dean of Students, provides staff, facilities, services and special programs to support African-American students, Latin American students, students with physical and learning disabilities and other minority groups. The staff works closely with academic deans, faculty and administrative offices to provide a comfortable and supportive campus environment for special student populations and to enrich the educational experience of all students through the promotion of cultural understanding.

LEARNING ASSISTANCE CENTER

The Learning Assistance Center offers three courses—Developmental Reading and Study Skills, Developmental Mathematics, and Developmental Writing—and other services to accommodate both the academic and the personal development of each student and to provide all students an opportunity to enjoy their maximum academic success. (See also DEV, Chapter X.)

Tutorial Services offers individualized tutoring, available to all UD students, in any undergraduate course. Academic assistance on a drop-in basis is available from the Write Place for any kind of writing project or the Math Place for mathematics in any subject. There is no charge for any of these services.

NEW STUDENT ORIENTATION

Each year new undergraduate students arrive a few days before the opening of the academic year to participate in the New Student Orientation Program. Its purpose is to familiarize students with the campus and to assist them in their transition to student life by providing a variety of academic and social functions.

PUBLIC SAFETY

The Office of Public Safety is the recognized, lawful, professional police agency on all University property. Its objective is to make the University a comfortable, efficient, and safe place. The University of Dayton Public Safety staff are dedicated to the preservation of freedom of movement and communication without the fear of property loss or personal injury.

PARKING

Campus parking facilities are limited. Commuting students are issued permits to park in Lots S1 and S2. Parking permits will be issued to residence hall students on a SPACE AVAILABLE, first come, first-served basis to those who can validate a special need. Students with off-campus jobs must present a letter of employment on company letterhead. Others will be placed on a waiting list upon request. Drivers with unusual problems will be given special consideration.

In Campus South, the Garden Apartments, and UD houses, one parking permit per apartment/house will be allocated. In the event additional parking permits

become available due to under-utilization, these permits will be issued on a first-come, first-served basis. Permits are issued through the department's division of Parking Services located in Gosiger Hall, 2nd floor.

Those in need of emergency assistance or ambulance service should call the emergency number, 229-2121, at the Office of Public Safety.

CAREER PLACEMENT CENTER

The services of the Career Placement Center, available to seniors, graduate students, and alumni seeking career positions in business, industry, and government, include the following:

1. Personal employment counseling
2. Literature describing opportunities with employers
3. A listing of current job openings
4. Direct referral of alumni
5. Campus interviews by representatives of business, industry, and government.

These interviews are conducted from October through March; they are announced in a monthly calendar which can be obtained in the Career Placement Center in the Jesse Philips Center.

Part-time and summer employment are the responsibility of the Student Employment Coordinator, Room 218, Powerhouse. Teacher placement is handled by the Teacher Placement Office, School of Education.

STUDENT IDENTIFICATION CARDS

At the beginning of the school year, all students must secure student identification (ID) cards which they are to carry at all times and present upon the request of duly authorized persons such as members of the administration, faculty, or staff, or Public Safety officers. Provision for obtaining the card, complete with photograph, is made at the time of registration. The ID card is not only obligatory; it is necessary in order to obtain numerous University services.

If a student withdraws from the University during the academic year, the ID card should be returned to the Office of Student Development.

STUDENT HANDBOOK

Each student at the University of Dayton is responsible for knowing and observing the policies, regulations, and procedures contained in the official student handbook. This publication provides much useful information on such subjects as University services, student organizations, student publications, and intercollegiate and intramural sports schedules.

Student handbooks are available at the opening of the fall term in University housing, the McGinnis Center, and the Kennedy Union.

III Admission

Each application for admission to the University of Dayton is considered individually. The Admission Committee reviews the academic achievement, aptitude, and interest of every applicant with the goal of admitting students who possess the intellectual ability and the motivation to profit best from their attendance at the University of Dayton.

APPLICATION FOR ADMISSION

All applications for admission must be submitted to the director of admission on forms supplied by the University of Dayton. Applicants are encouraged to submit applications early in the senior year of high school.

The applicant must also present an official transcript of courses and grades in secondary school and the results of either the Scholastic Aptitude Test (SAT), the College Entrance Examination Board (CEEB) or the American College Test (ACT). Any person whose native language is not English must submit an acceptable score in the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

Admission is based on the total information submitted by the applicant and in his or her behalf. It is the applicant's responsibility to see that complete information has been provided to the director of admission.

When submitting the completed application to the high school counselor or principal for the inclusion of the transcript, the applicant should attach a check or money order for \$20.00 payable to the University of Dayton. This application fee is nonrefundable.

CONSIDERATIONS FOR ADMISSION

The applicant must have graduated from a high school accredited by a regional accrediting agency or by a state department of education and have a total record indicating a likelihood of success at the University of Dayton. The General Education Development (GED) certificate is also recognized for consideration by the admission committee.

The quality of the academic record is shown by the applicant's grades, standing in class, and selection of courses. Although no set pattern of courses is required for admission, a well prepared candidate will have had from 15 to 18 units in English, social sciences, mathematics, foreign language and laboratory science. Those who plan to major in one of the natural sciences, mathematics, computer science, business administration or engineering will find a strong mathematics background most helpful.

Additional indicators of academic aptitude are scores received on the Scholastic Aptitude Test (SAT), the American College Test (ACT), and, when applicable, the Test of English as a Foreign Language (TOEFL).

The admission committee is very interested in the applicant's personal traits and record as a school citizen. The recommendation of the high school guidance counselor concerning ability, motivation and character is carefully reviewed by the admission committee.

Each applicant is encouraged to visit the campus for an interview with an admission counselor. A visit also will provide an opportunity to see the campus and ask questions of the students and faculty.

ENTRANCE UNIT RECOMMENDATIONS											
Numbers represent academic units (years) of recommended high school preparation.											
COLLEGE MAJOR	English	Foreign Language	Algebra I	Geometry	Algebra II, Trigonometry	Mathematics IV	Biology	Chemistry	Physics	Laboratory Science	Additional academic units
Business (all majors)	4		1	1	1					1	8
Engineering (all majors)	4		1	1	1	1		1	1		6
Engineering Technology (all majors)	4		1	1	1						9
Education (all majors)	4		1	1	1		1			1	7
Biochemistry, Biology, Chemistry, Nuclear Medicine Technology, Pre-Dentistry, Pre-Medicine	4	2	1	1	1	1	1	1			4
American Studies, Communication, English, Fine Arts, Foreign Languages, History, Interior Design, Music, Music Therapy, Philosophy, Photography, Political Science, Psychology, Religious Studies, Sociology, Theatre, Visual Communication Design, Undeclared	4	2	1	1	1					1	6
Computer Science, Mathematics, Physical Science, Physics, Exercise Science	4	2	1	1	1	1		1	1		4
Criminal Justice, Economics	4	2	1	1	1					1	6
Computer Information Systems	4	2	1	1	1			1	1		5
Geology	4	2	1	1	1	1		1			5
Human Ecology	4	2	1	1	1		1	1			5

TRANSFER STUDENTS

Students from accredited institutions may be considered for transfer to the University of Dayton provided they are in good standing socially and academically (at least a C average—2.0).

Transfer students will be considered for admission after they have followed the regular admission procedure. They must also submit official transcripts from all institutions previously attended. It is not necessary for a transfer applicant to receive a guidance counselor's recommendation to be accepted. The College of Arts and Sciences has set a fall transfer application deadline of August 1. Students who apply to the College after that date will still be considered, but course sections may be closed, transfer evaluations delayed and financial aid limited.

A student with transfer credit from a two-year institution will be required to have at least 54 semester hours from a four-year institution for any baccalaureate degree. A transfer student is considered for a degree only if the last 30 semester hours have been taken on the University of Dayton campus and other requirements for graduation have been met.

SAT or ACT test results are required only of transfer applicants under 21 years of age.

VETERANS

All departments at the University have been approved by the State Approving Agency for Veterans' Training. The Veterans Affairs Office is located in St. Mary's 202 and will assist in processing the necessary forms for educational benefits. Each semester the Veterans Schedule Form must be submitted and any changes in program be reported in writing. Failure to follow this procedure may result in cancellation of benefits by the V.A. For the conditions for good academic standing, see "Academic Standing," Chapter V. If a veteran on probation fails to acquire the required cumulative grade-point average at the end of the veteran's next full-time term, the benefits from the V.A. cease.

INTERNATIONAL STUDENTS

Undergraduate students who are not United States citizens or permanent residents of the United States are expected to submit international student application forms. They need to follow the general admissions procedure outlined above and the specific procedures outlined in the *Guide to Admissions for International Students*. The applicant whose native language is not English must demonstrate a score of 500 to 525, depending upon the major field, on the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

A student unable to demonstrate an acceptable TOEFL score at the time of application may wish to apply for admission conditionally. Such a student will normally be expected to attend one of the special intensive English programs offered in the United States and demonstrate an adequate TOEFL score upon completion.

International student applicants must present their academic credentials in official English translation along with their transcripts in the original language. The applicant must also present certification of financial resources available to support an education at the University of Dayton.

Other pertinent information may be obtained from the director of International Services.

SUMMER PROGRAMS FOR SELECT AT-RISK STUDENTS

The University has planned a special academic support program for a limited number of students who are judged to need special support to be successful at the University of Dayton. Some students are conditionally accepted to the University and are required to successfully complete the Summer Trial Enrollment Program (STEP) in order to be accepted for the fall term. These students take two specially selected courses in the summer and are required to participate in academic support sessions. Successful completion of the summer program includes grades of C or better in each course. Students admitted to this program are selected by the admission committee.

Some students are recruited by the University for their special talents in the performing and visual arts and in athletics. When these students are judged to need academic support, they are required to complete a summer program of two specially selected courses and academic support sessions.

ADVANCED STANDING BY EXAMINATION

ADVANCED PLACEMENT (AP)

The University accepts the advanced placement program offered to secondary schools under the auspices of the Advanced Placement Committee of the College Entrance Examination Board.

The University will give not only advanced placement, but also credit to students enrolled in the program, if such students have taken the tests provided and scheduled by the College Entrance Examination Board and have received favorable interpretation grades from the Educational Testing Service.

Students wishing to receive advanced placement under this program are to arrange that test scores be sent to the University of Dayton Office of Admission. Advanced standing with or without credit in appropriate subject areas is awarded as follows:

For a score of 5—two terms of advanced standing with credit

(In Calculus A/B, Chemistry, Computer Science, Government and Politics, Macroeconomics, Microeconomics, and Physics only one term of advanced standing with credit is awarded.)

For a score of 4—one term of advanced standing with credit

For a score of 3—one term of advanced standing without credit

(In Economics, English, and Government and Politics no advanced standing is awarded.)

Scores below 3 do not entitle the applicant to either credit or advanced standing.

COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)

The University of Dayton cooperates with the College Level Examination Program (CLEP) of the College Entrance Examination Board (CEEB). Academic credit

Admission

is available to students who achieve scores of 480 or above on any of the four acceptable areas of the General Examinations as indicated below:

English—no credit

Mathematics—maximum of 3 semester hours of credit

Natural Sciences—maximum of 7 semester hours of credit

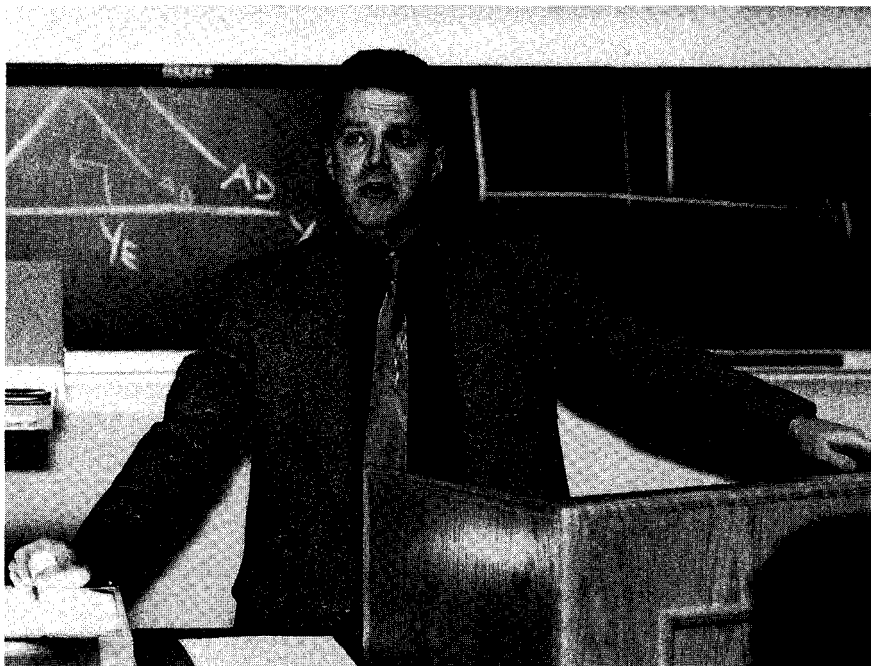
Social Sciences and History—maximum of 6 semester hours of credit

Humanities—maximum of 6 semester hours of credit

Academic credit is also available to students who achieve scores above a specified minimum on certain subject examinations. Since not all subject examinations are acceptable and some subject examinations require the Free Response (essay) section, it is advisable to consult the University coordinator for AP and CLEP.

HIGH SCHOOL SCHOLARS

The University of Dayton participates in the program established by Ohio Senate Bill 140, which allows high school juniors and seniors to enroll in college courses while still enrolled in high school. This program is also known as the Post-secondary Enrollment Options program. It is selective and limited to a specific number of students. Interested students must submit applications for the High School Scholars program. These applications are available in the Office of Admission or in high school guidance offices of Dayton-area high schools.



IV Financial Information

GENERAL POLICY

The tuition and fee charges of the University are set at the minimum permissible for financially responsible operation, and in general these charges are less than the actual costs incurred. Gifts and grants received through the generosity of industry, friends, and alumni help to bridge the difference between income and costs. The trustees of the University reserve the right to change the regulations concerning the adjustment of tuition and fees at any time the need arises and to make whatever changes in the curricula they may deem advisable.

Payment of tuition, fees, room, and board is due at the time of final registration for the term or in accordance with current deferred payment terms. All checks should be made payable to the UNIVERSITY OF DAYTON. The student's name and social security number should be shown on the face of each check to insure proper credit.

An assessment of \$25.00 will be made for payment of tuition and fees by a bad check.

An assessment of \$10.00 will be made for passing other bad checks in any area at the University. This assessment is made each time a check is dishonored.

Registration for a new term, transcripts of credit, and honors of graduation will be permitted only for students whose University records are clear.

UNDERGRADUATE TUITION AND FEES AUGUST 1993 THROUGH JULY 1994

Fees Payable One Time

Application fee, payable once, upon application	\$20.00
Application Fee, international students	20.00
Counseling Center fee, payable once, at entrance	83.00
Orientation fee, payable once, first-year resident students only	81.00
Orientation fee, payable once, first-year commuter students only	66.00

Tuition Charges in Terms I and II

Full-time undergraduate student (12-17 semester hours), per term .	\$5,335.00
Each semester hour over limitations stated above	340.00
Three-fourths-time undergraduate student (8-11 semester hours), per term	4,000.00
Three-fourths-time student teacher (8-12 semester hours of student teaching)	4,000.00
Part-time undergraduate student (1-7 semester hours), per semester hour	340.00
Audit course, per semester hour	170.00

Financial Information

Basic University Fee, Terms I and II

Full-time and 3/4-time student (8 or more semester hours), per term	\$210.00
Part-time student (1-7 semester hours), per term	20.00

Laboratory Fees, Terms I and II

Laboratory fee, per laboratory clock hour as listed in composite (not to exceed \$200.00 per term; not applicable to engineering and engineering technology students)	\$ 40.00
Engineering surcharge fee (incorporating laboratory charges) full-time and 3/4-time engineering and engineering technology students, each term	340.00

Course Fees, Terms I and II

Fees are listed with the course names and times in each term's course composite. Following are some examples of the types of courses for which there are special course fees.

Studio fee for certain courses in art and design	\$10.00-45.00
Special course fees (scuba diving, skiing, etc.)	variable
Music fees	40.00-180.00
Fees for certain courses in photography	50.00-75.00
Fees for certain courses in theatre	5.00
Fees for developmental courses	40.00
Student teacher fees:	
Elementary or secondary education	110.00
Special education or special arrangements	80.00
Concurrent registration	190.00
Elementary block fees for specified courses — per course	50.00

Tuition and Fees, Term III

Tuition per semester hour	\$340.00
Basic University fee	20.00
Laboratory and course fees—Same as in Terms I and II but no surcharge for engineering; laboratory fees will be charged per clock hour.	

Other Charges

Service charge for change of schedule—minimum	\$2.00
Late registration service charge:	
Full-time and 3/4-time students—25.00 per week to a maximum of ...	75.00
Part-time and summer students—15.00 per week to a maximum of	45.00
Credit by examination, per semester hour	25.00
CLEP per credit hour	25.00
Graduation fee, undergraduate students	60.00
Books and supplies	variable
Transcript of credits, first copy of order	2.00
Each additional copy of same order	1.00
Co-op student fee, per work term	65.00
Finance charge—1% monthly on ending balance if total amount due is not paid by the 25th of the month.	

FULL-TIME AND 3/4-TIME STUDENTS

A student with an academic schedule of at least 12 semester hours is considered a full-time student. A student with an academic schedule of 8-11 semester hours (except a student teacher) is considered a 3/4-time student. With this status and upon payment of the tuition and applicable fees, the student is entitled to the benefits of the various activities and student services as available.

PART-TIME STUDENTS

A student with an academic schedule of fewer than 8 semester hours is considered a part-time student. (Consult the Student Handbook for benefits, services, and activities.)

SPECIAL STUDENTS

Special students and nonmatriculated students are subject to the various expenses outlined above for full-time, 3/4-time, or part-time students.

CANCELLATION AND REFUNDS

If registration is cancelled before the first day of classes, full refunds will be made, with the exception of housing and admission deposits.

Cancellation must be in writing on the proper form, the withdrawal or "drop" form. For nonlocal students a letter to the appropriate dean may be used as notification of cancellation. Students who do not attend classes and do not officially complete withdrawal procedures during the cancellation period will be responsible for the full amount of the applicable tuition and fees.

During the four-week cancellation period for the first and second terms, tuition and housing credits will be given according to the following schedule:

During first week of classes	80%
During second week of classes	60%
During third week of classes	40%
During fourth week of classes	25%
During or after fifth week of classes	0%

Special course fees are fully refundable through the Friday of the first full week of the term and not refundable thereafter.

Laboratory fees are fully refundable through the Friday of the first full week of the term and refundable on the same schedule as tuition thereafter.

During the two-week cancellation period for each six-week session of the split third term, tuition and housing credits will be given according to the following schedule:

During first week of classes	65%
During second week of classes	30%
During or after third week of classes	0%

Cancellations for a full third term course have a four week cancellation period and will be on the same schedule as cancellations for the first and second terms.

Financial adjustments for tuition are based on the date the drop (withdrawal) form is finalized in registration.

Financial adjustments for housing are based on the date of checkout from housing, if applicable.

Financial Information

In a summer term, special course fees are fully refundable through the first three days of the term and not refundable thereafter.

In a summer term, laboratory fees are fully refundable through the first three days of the term and refundable on the same schedule as tuition thereafter.

Special rules apply for first-time attendees who withdraw and receive Title IV funds. Please contact the Office of Financial Aid if additional information is needed.

After classes have begun, the University fee for student activities is not refundable. All tuition refund requests and appeals must be in writing and directed to the attention of Nancy V. Graft, Bursar.

RESIDENCE FACILITIES POLICY

Each unmarried first-year student under 21 years of age, not living at home in the Dayton area, is required to live in a residence hall. Each unmarried second-year student under 21 years of age, not living at home in the Dayton area, is required to live in one of the University Housing options.

Each student applying for a residence hall room must complete a housing contract card and send it along with a \$50 security deposit to the Bursar's Office. The housing contract covers both the fall and the winter terms of the academic year. The \$50 security deposit will become the damage/key deposit at the beginning of the fall term. This deposit will be refunded at the end of the academic year less any damages.

The applicant may cancel the contract before June 1 without penalty. After June 1, the contract may not be cancelled by an applicant who attends the University during the fall term.

A student applying for January (winter term) admission may cancel the contract before December 1 without penalty. From December 1 until December 15 the contract may be cancelled, but the applicant forfeits the \$50 security deposit. After December 15 the contract may not be cancelled by an applicant who attends the University during the winter term.

Those students dropping all courses and checking out of housing during the first four weeks of school will be authorized refunds as stated above under "Cancellation and Refunds."

All students living in housing facilities are required to observe University regulations in general as well as the specific regulations of each facility, and they will be held responsible for any damage done through their own negligence to the structure in which they are housed. The same conditions shall also hold for any loss or damage to the University grounds, fixtures, furnishings, or other property provided by the University for use by the students.

Students may reside in their rooms, suites, apartments or houses without additional charge during Thanksgiving and Easter vacations. All University residences are closed during the Christmas vacation period and during the Mid-term break.

ROOM AND BOARD, PER TERM, TERMS I AND II AUGUST 1993 THROUGH APRIL 1994

Housing Facilities

Residence Halls	Single	Double	Triple
Marycrest Complex	\$1,405.00	\$1,005.00	\$955.00
Stuart Hall	NA	1,005.00	NA
Founders Hall	1,405.00	1,005.00	NA

Campus South apartments	1,235.00 per occupant
Garden apartments	1,235.00 per occupant
Virginia W. Kettering Residence Hall	1,185.00 per occupant
Residential properties	1,180.00 per occupant

Food Service

All students living in residence halls must have one of the following:

Five-day meal service (Monday-Friday—15 meals)	\$1,010.00
or	
Any 15 meals per week	\$1,130.00
Any 10 meals per week	\$ 925.00

The Declining Balance Option is available for ala carte dining as a supplement to other plans.

Non-resident students may purchase meal tickets, make deposits for declining balance cards, or make their own daily arrangements. (The Food Court in Kennedy Union is available on weekends.)

SPECIAL PAYMENT PLANS

For those who prefer to budget annual school costs out of monthly income, the following are some of the options:

Credit Cards — Payment for any University charges may be made by MasterCard, Visa, and/or Discover within the credit limits for those cards.

University of Dayton Deferred Plan — In Terms I and II a student may pay each term's fees in five installments. An interest charge is assessed monthly on the unpaid balance after the start of each term. A one-time signed Credit Account Agreement is required.

Privately Sponsored Alternatives —

Educational Line of Credit
 Educational Financial Group
 57 Regional Drive
 Concord, NH 03301
 1-800-258-3640

Knight Tuition Payment Plans
 855 Boylston Street
 Boston, MA 02116
 1-800-225-6783

P.L.A.T.O. Educational Loan
 205 Van Buren Street, Suite 200
 Herndon, VA 22070
 1-800-767-5626

Manufacturers Hanover Payment Plans
 57 Regional Drive
 Concord, NH 03301-9846
 1-800-343-0911

Financial Information

TERI Supplemental Loan
330 Stuart Street, Suite 500
Boston, MA 02116-5237
1-800-255-8374

Academic Management Services
50 Vision Boulevard
PO Box 14608
East Providence, RI 02914-0608
1-800-635-0120

The Excel Loan
Nellie Mae, Inc.
50 Braintree, MA 02184
1-800-634-9308

EXPENSES

The University of Dayton operates on a "split third-term calendar." Tuition and fees for full-time students during the 1993-94 academic year (fall and winter terms) will total about \$11,090.00 plus laboratory and/or special course fees where applicable. Room and board on campus for this period would be approximately \$4,230.00, based on double room occupancy, a five-day meal ticket, and a declining balance account for weekends. Books and supplies will cost approximately \$175 each term. In addition, the student will need funds to satisfy personal expenses and extra meals on the weekends.

Expenses for commuting students will include tuition, fees, supplies, and miscellaneous living costs. Transportation to and from the University as well as lunches should be considered in the budget.

FINANCIAL AID POLICY

The University of Dayton desires to assist all qualified students who seek financial assistance in order to continue their education. Assistance based on financial eligibility is available in the forms of nonrepayable grants, educational loans and part-time employment. A parent loan program and a University-sponsored payment plan are also available.

Eligibility for various federal, state and University-sponsored financial aid is determined by comparing the total cost of attending UD with a family's anticipated ability to cover the expenses. Financial aid is considered supplemental to the student's efforts and those of the family to meet the cost of attendance.

To assure an equitable distribution of financial aid resources, the standardized financial need analysis provided by the Financial Aid Form (FAF) and the Free Application for Federal Student Aid (FAFSA) is used. The contribution expected of the student and his/her family is determined after careful review of the family's income and other circumstances which consider the family's financial situation. Signed copies of the student and parent 1993 income tax returns with schedules must be on file in the Office of Scholarships and Financial Aid before an award will be offered. All information provided is carefully and confidentially reviewed.

The FAF and the FAFSA forms are available in the Office of Scholarship and Financial Aid. Students should mail completed forms to College Scholarship Services and request that the results be sent to the University of Dayton. Priority is given to students whose completed applications are received by April 15. Financial aid is awarded annually. A new UD financial aid application FAF and FAFSA must be submitted each year.

ACADEMIC SCHOLARSHIPS FOR FIRST-YEAR STUDENTS

The President's Scholarship, the Dayton Area Scholarship, the Marianist Scholarship, the Deans' Awards, and the Leadership Awards were established to recognize excellent high school achievement by incoming first-year students. Applicants receive consideration for these scholarships on the basis of (1) high school academic performance; (2) SAT or ACT scores; (3) demonstrated service to school, community, and church; (4) proven leadership ability; and (5) citizenship. Each scholarship is renewable for eight consecutive undergraduate terms provided the recipient maintains the required cumulative grade-point average and participates in University-sponsored extracurricular activities (other than social).

Application Procedure

This procedure is to be followed in applying for these scholarships:

1. Between September 15 and December 30 of your senior year in high school, request an application from the Office of Admission, University of Dayton, Dayton, Ohio 45469. Complete the application and return it to the Office of Scholarships and Financial Aid before January 15.

2. Arrange to take the Scholastic Aptitude Test (SAT) or the American College Test (ACT) no later than December. Indicate that your scores are to be sent to the University of Dayton. Scores from earlier tests are also acceptable if your high school sends the results.

All forms—the application and the recommendation section—should be completed as early as possible, but must be available to the University of Dayton Scholarship Committee by January 15.

Each scholarship applicant will be notified by March 15 of the decisions of the Scholarship Committee.

ACADEMIC SCHOLARSHIPS FOR RETURNING STUDENTS

Students in full-time attendance who have completed at least 12 semester hours on campus at the University of Dayton are eligible to apply for Upperclass Scholarships, which have been established to reward upperclass students for outstanding academic achievement and to recognize service to the University. Recipients are selected on the basis of academic accomplishments, leadership, demonstrated service to the University, and the strength of the recommendations of faculty and staff members. Each year approximately 150 students are chosen to receive these scholarships, which are awarded for a period of one academic year and range from \$1,000 to \$2,000.

Application Procedure

Upperclass scholarship applications are available in the Office of Scholarships and Financial Aid, Room 202, St. Mary's Hall, from January 15 through March 1 each year.

The application and two recommendations must be received by March 1.

Each scholarship applicant will be notified by June 1 of the result of the upperclass scholarship application.

OTHER SCHOLARSHIP OPPORTUNITIES

Athletic Scholarships: The University of Dayton offers scholarships in some men's and women's intercollegiate sports to students who have demonstrated special athletic and academic promise. Recommendations for scholarship awards are made to the scholarship committee by the coach who has the responsibility for administering the particular sport. Correspondence should be directed to the head coach of the sport in which the applicant is interested.

ROTC Scholarships: U.S. Army and Air Force scholarships can be used at The University of Dayton. Students can compete for 4-yr., 3-yr., and 2-yr. awards.

Music and Art Scholarships: Music awards are awarded to both music majors and nonmajors who distinguish themselves as outstanding performers. Visual art scholarships are awarded to students who demonstrate outstanding promise in the visual arts and plan to pursue a degree in this field. Scholarships for musical and visual art talents are determined by the faculties of the appropriate academic departments.

Additional Scholarships Administered by The University of Dayton: The University is authorized to select students as nominees for scholarships offered by certain corporations, business firms, service groups, and friends of the University.

APPLYING FOR NEED-BASED FINANCIAL AID

Application forms for grants, tuition reductions, loans, and employment may be obtained from the Office of Scholarships and Financial Aid, University of Dayton, Dayton, Ohio 45469. The following procedure must be completed each academic year. Priority deadline is April 15.

1. Submit a University application to the Office of Scholarships and Financial Aid.
2. File a Financial Aid Form (FAF) and Free Application for Federal Student Aid (FAFSA) with the College Scholarship Service. (Forms may be obtained from the high school counselor or from the University of Dayton Office of Scholarships and Financial Aid upon request.) Be sure to designate the University of Dayton as the recipient of the financial analysis.

GRANTS

Federal Pell Grants: The Pell Grant Program makes funds available to eligible students attending post-high-school institutions. To apply, you must complete a Federal Student Aid Application. (You may get this form from post-secondary educational institutions, high schools, Talent Search, and Upward Bound projects.) Within four weeks, you will receive a Student Aid Report. Submit the report to the Office of Scholarships and Financial Aid at the University of Dayton, to confirm the amount of the Pell Grant you are eligible to receive.

Federal Supplemental Educational Opportunity Grants: These federally supported, University-administered grants are provided to undergraduate students who have

financial need. Eligibility for the grant and the stipend is governed by the rules and regulations of the United States Department of Education. The student must also receive assistance from certain other sources, in an amount at least as great as the amount of the grant. The value of this grant ranges from \$200 to \$2,000 per year. The completion of an application for student aid assures the applicant of consideration for this type of assistance.

Ohio Instructional Grants: are intended to encourage Ohio residents to attend institutions of higher education within the state of Ohio. Residents with annual family incomes less than \$27,000 are eligible to receive this type grant from the state of Ohio for up to ten semesters of full-time, undergraduate enrollment at the University of Dayton. They presently range from \$564 to \$3,468 for students at private colleges and universities (such as the University of Dayton). Each recipient of the Ohio Instructional Grant must (1) be a resident of Ohio, (2) be enrolled or accepted for enrollment as a full-time undergraduate student in an Ohio institution of higher education, (3) be making "appropriate progress" toward a bachelor's degree, and (4) meet the financial guidelines established by the Ohio Board of Regents. Students enrolled in courses of study leading to degrees in theology, religion, or other fields of preparation for a religious profession are not eligible. An application packet may be obtained from the high school counselor or the Office of Scholarships and Financial Aid at the University of Dayton.

Founder's Grants (University): The University of Dayton offers nonrepayable grants to students with demonstrated financial need who are not receiving nonrepayable assistance from other sources. The University assumes that the student will provide self-help in the form of loans and school-year employment. The Founder's Grant of nonrepayable assistance from other sources will cover a percentage of the demonstrated need.

President's Grant: The University has funds available which are reserved for students in extreme or exceptional financial need. Although recipients are not required to repay these grants, they should, when they achieve sufficient financial status, accept the obligation of reimbursing the University so that other deserving students may stay in school.

Kettering Grant: Graduates of Montgomery County (Ohio) high schools in the upper 40% of their graduating class who come to the University of Dayton as full-time entering first-year students and who demonstrate financial need may be eligible for the Kettering Grant.

Montgomery County Reduction: Graduates of Montgomery County (Ohio) high schools who come to the University of Dayton as full-time entering first-year students and who are not eligible for other forms of nonrepayable grants or scholarships from federal, state, or University sources may be eligible for the Montgomery County Reduction. The maximum Montgomery County Reduction is 15% of tuition per year and may be received for four years.

LOANS

Federal Perkins Loans, (formerly National Direct Student Loans) are available to those applicants who have demonstrated need for assistance to pay the actual costs of attending school. A student is eligible to borrow only that amount which is needed

Financial Information

to supplement other resources to meet expenses. The maximum loan for undergraduates is \$3,000 per year of undergraduate work and \$15,000 total. The recipient enters the repayment cycle nine months after ceasing to carry at least half the normal full-time academic load. When the recipient enters the repayment cycle, a five percent simple interest charge is included. Recipients who teach economically, emotionally, mentally, or physically handicapped children may receive cancellations of the loan. Other cancellation privileges are available.

Federal Stafford Loans (formerly Guaranteed Student Loans) are made available to all students. The maximum loan is \$2,625 per year for the first year, \$3,500 for the second year and \$5,500 per year for the junior and senior years. Repayment begins six months after the recipient ceases to be enrolled at least half-time. During the repayment period a variable interest rate, not to exceed 9%, is charged. Repayment can be spread over a ten-year period.

Federal Parent Loan for Undergraduate Students (PLUS) provides a source of financing to all families regardless of the family income. All parents of undergraduate students may borrow up to the cost of education minus financial aid per academic year for each student attending an accredited college. Repayment begins within sixty days after the disbursement of the check. During the repayment period a variable interest rate, not to exceed 10%, is charged. In general, a lender will allow a borrower at least five years, but not more than ten years, to repay a loan. Minimum payments on the loan principle are \$50 per month.

Emergency Loans are available to students who encounter unexpected financial problems during the year. No interest is charged on these loans, which are contingent upon sufficient funds.

TUITION REDUCTIONS

The University of Dayton awards tuition reductions to qualified, full-time undergraduate students in good standing. No student or family is eligible to benefit from more than one of these reductions at the same time. The reductions are not automatic. A student must complete an application each academic year in the Office of Scholarships and Financial Aid. It is preferred that the student apply by April 15 for the following academic year.

Sibling Reduction: A tuition reduction of \$500.00 per year (\$125.00 per term) is available to families who are supporting two unmarried dependents simultaneously at the University of Dayton. The recipient and the sibling must be attending as full-time (12 credit hours each semester) undergraduate students. The third member of the same family and each additional member in attendance shall be eligible for a 50% reduction in tuition.

Employee Reductions: Unmarried dependent children and the spouses of full-time employees, as well as the employees themselves, are eligible for tuition reductions for undergraduate courses. Employees and spouses of administrative, professional, or faculty employees are also eligible for tuition reductions for graduate courses. Interested students should contact the Office of Human Resources to complete necessary forms or to get further information regarding eligibility.

Senior Fellows: Students 60 years of age and over are eligible to apply to University Continuing Education at the University of Dayton for remission of tuition.

EMPLOYMENT

The College Work-Study Program (federally supported) provides on-campus work opportunities for full-time and 3/4-time students who demonstrate financial need. Such a student may work up to 20 hours per week during the school term and will receive payroll checks semi-monthly for these services. When possible, a student will be employed by the University in a job related to his or her educational objectives.

Institutional Employment opportunities for students who do not qualify for the College Work-Study Program are available through the Student Employment Office, Room 218, Powerhouse. Any interested student should complete an Application for Employment and schedule an appointment with the Student Employment Coordinator. Interviews should be scheduled as soon as the student knows what his or her class schedule will be for the period of employment.

Cooperative Education ("the co-op system") allows students to alternate terms of on-campus study and terms of off-campus work at jobs related to their academic concentrations. Several departments at the University of Dayton participate. See Chapter X, Cooperative Education.

ADDITIONAL OPPORTUNITIES

G.I. Bill: To be eligible for benefits under the G.I. Bill, any veteran of the Army, Navy, Marine Corps, Air Force, or Coast Guard must have served continuously on active duty for at least 181 days ending after January 31, 1955, and have received an honorable discharge. A veteran whose active duty was ended by a service-connected disability need not meet the 181-day requirement. Persons still in the service are eligible if they have had at least two years of active duty. Applications may be obtained from any Veterans Administration Office or the Veterans' Affairs Office.

Junior G.I. Bill: Educational opportunities are available to children of veterans who died or were permanently and totally disabled in or as the result of service in the Armed Forces of the United States during specified time periods. Application must be filed with the Veterans Administration by a parent or guardian.

The U.S. Army Education program (Project Ahead) is an opportunity to accumulate academic credit from the University of Dayton while serving in the U.S. Army. When the tour of duty is over, degree requirements are completed at the University. Anyone who meets the entrance requirements of the University of Dayton and who is enlisting in the U.S. Army is eligible. Application blanks are available in the Office of Admission.

Vocational Rehabilitation: State vocational rehabilitation agencies arrange the training of handicapped persons for gainful employment. Requests for information on rehabilitation services should be directed to the State Director, Vocational Rehabilitation Agency, the State Capitol.

The U.S. Army Reserve Officers Training Corps (ROTC) program is offered on campus by the Department of Military Science. All students who complete the basic course (first and sophomore years) may enroll in the advanced course (junior and senior

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years), leading to a reserve commission in the Army at the time of graduation. During the advanced course, the student who has agreed to accept the commission and serve two years' active duty receives \$100 a month subsistence. For further information, see MIL, Chapter VI.

Ohio National Guard Tuition Grant: The Ohio National Guard offers a tuition grant to eligible members. This grant pays partial tuition for those members enrolled as full-time students. The grant is limited to undergraduate studies only. For further information and application forms contact your local Ohio National Guard Armory.



V Academic Regulations

GENERAL REQUIREMENTS

All bachelor's degrees granted by the University of Dayton require a minimum of 120 semester hours of credit with a cumulative grade point average of at least 2.0.

Specific requirements for the various degrees are listed under the schools granting the degrees. See Chapters VI-IX.

One year (thirty semester hours) of residence is a minimum requirement for any bachelor's degree.

The semester hour is the unit by which the University measures its course work, and the number of semester hours is determined by the number of hours a week in class and the number of weeks in the session. One semester hour is assigned to a class which meets fifty minutes a week over the period of one term.

Students enrolled in the University as candidates for degrees should not take courses at other colleges or universities without first obtaining written permission from their respective deans. If the permission is granted, the dean will request "transient status" for such students at designated institutions. The University reserves the right not to accept credits for such courses when this procedure has not been followed.

The Bachelor of Science in Education may be awarded to holders of nonprofessional degrees from the University of Dayton with the completion of a minimum of thirty semester hours prescribed by the School of Education beyond the requirements of the nonprofessional degree. The Bachelor of Arts or Bachelor of Science may be awarded to holders of professional degrees from the University of Dayton upon the completion of the requirements for such degrees. Any student wishing to obtain a second bachelor's degree may do so by completing the requirements for the second degree as determined by the faculty of the college or school in which this degree is offered.

Ordinarily a student who earned a first bachelor's degree or an associate degree at another institution must complete six semester hours of philosophy and/or religious studies at the University of Dayton. Such a student may be required to complete the prescribed twelve semester hours of philosophy and/or religious studies, if in the judgment of the dean, equivalent coursework had not been earned as a part of the program leading to the first degree.

All students following four-year programs are required to complete successfully the University requirements in basic skills and General Education as explained below.

BASIC SKILLS REQUIREMENTS

READING AND WRITING SKILLS

The University requirement in reading and writing skills is satisfied by the completion of ENG 101 and ENG 102. Students whose verbal scores on the SAT or ACT are sufficiently high to warrant placement in ENG 114 upon admission to the University or whose acceptance into the University Honors Program places them in ENG 198 satisfy the University requirement with those one-semester courses.

Students who are placed in ENG 114 or ENG 198 do not receive credit for ENG 101 but are free to take elective course work in place of the waived first semester of composition. Students whose verbal scores on the SAT or ACT do not meet placement criteria for ENG 101 must enroll in a developmental writing course. (See DEV, Chapter X.) Students for whom English is a second language must take a placement test administered by the Department of English. Particulars about the first-year courses and testing procedures can be obtained from the chairperson or the coordinator of composition, Department of English.

SPEAKING AND LISTENING SKILLS

The University requirement in speaking and listening skills is satisfied by successful completion of CMM 101. Some entering students may demonstrate sufficient evidence of these skills and qualify to take a special waiver examination for the course. Students desiring information on eligibility for the waiver examination should inquire in the offices of their respective deans.

MATHEMATICAL SKILLS

All students at the University of Dayton are required to demonstrate a knowledge of basic algebraic manipulations. Many students will satisfy this requirement by taking the more advanced mathematics courses that their school, college, or major programs require. Students whose programs would not otherwise require them to take mathematics courses can satisfy the basic skills requirements in mathematics with MTH 102. The requirement can also be satisfied by passing a competency examination of the material covered in the MTH 102 course. Students whose mathematical skills are weak may need some special assistance. The Learning Assistance Center (see Chapter II; see also DEV, Chapter X), can provide help in such instances.

GENERAL EDUCATION REQUIREMENTS

Within the context of the University's Catholic and Marianist educational philosophy, the General Education requirements are central to the full intellectual, social, moral and spiritual development of every student. The purpose of these requirements is to make students aware of the diversity of intellectual thought and theory represented by the sciences, the humanities, and the social sciences. Further, the General Education component of the undergraduate curriculum offers the student an opportunity to integrate and evaluate information from various disciplines and thus enhance the study of a specific profession, field or major. These requirements, are integral to the University's goal of preparing students for a life of leadership and service, of helping students to grow not only in knowledge, skills, and professional competence, but also as morally responsible decision makers who are aware of the needs of the global community.

DOMAINS OF KNOWLEDGE

To achieve these goals, the University requires the completion of General Education courses in five domains of knowledge.

Arts Study: The experience of generations confirms that life is enriched immeasurably by experiencing the world through the arts. Every student should develop some understanding of the importance of this experience and must take one course in the arts and/or language as a means of aesthetic and/or cultural expression. Performing or production courses do not fulfill this requirement.

Historical Study: A person with a knowledge of history can relate ideas and events to one another within a context understood by the community of educated men and women. Therefore, every student at University of Dayton must take two history courses. One of those courses, History 101, History 102 or History 198, will be taken as part of the Humanities Base.

Philosophy and Religious Studies: As a Catholic and Marianist institution of learning, the University regards religious studies and philosophy as serving a special function. Students should have an opportunity to deepen their knowledge of the religious and philosophical traditions that shape their shared heritage. Study of these areas, especially when conducted through interdisciplinary courses, can also help students integrate their knowledge of the themes and institutions of societies through the ages. Since every student should be encouraged to go beyond the introductory level in either or both of these areas, every student must take four courses in religious studies and philosophy. Philosophy 103 and Religious Studies 103 are required as part of the Humanities Base.

Physical and Life Sciences: The physical and life sciences and technology have affected the quality of life in every age, but never more than in the present. The potential of science and technology for both good and evil will undoubtedly increase in the future. It is essential, therefore, that educated citizens understand the methods of science and its application through technology. For these reasons students must take two courses in the physical and life sciences and technological applications.

Social Sciences: Educated members of society need to understand the dynamics through which people relate to each other as individuals, in groups, and as producers and consumers of goods and services. Effective relationships sustain us as members of families, professions, nations, and the global community. Students, therefore, must take at least one course in the social sciences.

STRUCTURE OF GENERAL EDUCATION REQUIREMENTS

To achieve the goals of raising fundamental questions about human existence, encountering these questions in a meaningful context and encouraging significant integration, students must complete the Humanities Base and a Thematic Cluster as part of their General Education requirements.

Humanities Base: General Education raises a set of questions that challenges students to develop and formulate their own conception of what it means to be human. These questions may be considered in any number of disciplines, but they are essential to the humanities. Consequently, all undergraduates must complete, preferably during their first year, a Humanities Base of one course in each of the following disciplines.

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- History: HST 101, History of Western Civilization from Its Classical Roots to 1715
or
HST 102, History of Western Civilization Since 1715
or
HST 193, History Honors Seminar
- Philosophy: PHL 103, Introduction to Philosophy
- Religious Studies: REL 103, Introduction to Religion
(choice of Catholic or comparative religion option)
- English: ENG 102, College Composition II
ENG 114, Freshman Writing Seminar
ENG 198, Freshman Honors Seminar

Thematic Clusters: To facilitate an integrated view of the domains of knowledge and to encourage students to understand the broad world around them, all undergraduates must complete one Thematic Cluster. A Thematic Cluster is a series of courses from the domains of knowledge, focusing on an issue central to the human condition. To fulfill the Thematic Cluster requirement, students must complete a minimum of three approved courses in a single cluster, representing three different domains of knowledge. For the purpose of Thematic Clusters, philosophy and religious studies are considered separate domains of knowledge. Students will receive specific information about Thematic Clusters from their faculty advisors. Students must have the approval of their advisors before selecting and registering for a Thematic Cluster. A handbook describing the clusters and their course offerings is available to the students.

Completing General Education Requirements: At the maximum, students could enroll in as many as seven Thematic Cluster courses in the appropriate domains of knowledge. These courses, combined with the Humanities Base, would fulfill all General Education requirements. In most cases, however, students will have to complete some domain of knowledge requirements outside of the courses serving a Thematic Cluster. With their advisors' approval, students may elect to take any designated General Education course within the appropriate domain to help satisfy requirements. Many of the courses listed as approved courses under a domain of knowledge will also serve the same purpose as a course in a Thematic Cluster.

Courses that have been approved by the University for General Education credit are listed below according to the parts of the domains of knowledge that they serve to satisfy. These courses are marked by asterisks (*) where their descriptions appear under Courses of Study in individual departmental sections of this Bulletin. See also current issues of the Undergraduate Composite of Courses for additional approved General Education courses.

Each department determines whether its majors are free to choose from among all the approved nonrestricted courses, or are to choose from among a limited number of approved courses, or are required to take only specific approved courses. The University has approved some courses for certain majors exclusively, and those courses are therefore restricted to those majors for General Education credit. For example, English majors may not take HST 370, Economic History of the United States, to satisfy the historical study requirement. Students should consult their advisors to learn which courses are permissible in their own majors.

ARTS STUDY

All students must complete one Arts Study course to satisfy General Education requirements. This requirement may be satisfied by Arts Study courses that are either included in or independent of a Thematic Cluster. Approved General Education courses that satisfy the Arts Study domain of knowledge outside a cluster are:

ENG	151	Introduction to Literature	
ENG	198	Freshman Honors Seminar	for honors program students exempted from first-year composition requirement only
ENG	203	Major British Writers	
ENG	204	Major American Writers	
ENG	205	Major World Writers	
ENG	350	European Literature and Antiquity	
ENG	351	European Literature of the Middle Ages	
ENG	353	Literature of the Renaissance	
ENG	354	Literature of the Enlightenment	
ENG	355	Literature of the Romantic Age	
ENG	356	European Literature of the Nineteenth Century	
ENG	357	European Literature of the Early Twentieth Century	
ENG	358	Contemporary Literature of Europe	
ENG	362	Shakespeare	
ENG	380	The Tragic Dilemma	for CORE only
FRN	350	French Literature in Translation —The Old World Meets the New	
FRN	361	Survey of French Literature I	
FRN	362	Survey of French Literature II	
FRN	450	French Literature—The Old World Meets the New	
HMS	395	Contemporary Intellectual Trends—Europe	
MUS	201	Music in Concert	
MUS	203	Sights and Sounds of Music	
MUS	302	Music History and Literature II	
MUS	304	History of American Music	
MUS	305	African-American Sacred Music	
MUS	306	History of American Jazz	
MUS	307	Development of American Popular Song	
RUS	361	Survey of Russian Literature	
THR	105	Introduction to the Theatre	
VAH	101	Introduction to the Visual Arts	
VAH	201	Survey of Art I	
VAH	202	Survey of Art II	
VAH	203	Survey of Art III	

HISTORICAL STUDY

All students must complete two Historical Study courses to satisfy General Education requirements. The first Historical Study course, HST 101, HST 102, or

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History 198, forms part of the Humanities Base. The second Historical Study course can be part of a Thematic Cluster or serve simply to satisfy that domain of knowledge requirement of General Education. The restrictions on certain Historical Study courses apply both to the majors indicated and to secondary education majors whose teaching fields are in those disciplines. (Education students should see checklists.) Approved General Education courses that satisfy the Historical Study domain of knowledge outside a cluster are:

			<i>Restrictions</i>
CMM	416	Development of Mass Media	for CMM only
EDT	200	History of Education Since 1789	
ENG	301	Survey of Early English Literature	} for ENG only
ENG	302	Survey of Later English Literature	
ENG	305	Survey of American Literature	
ENG	306	Survey of Continental Literature	
HPS	275	History of Physical Education and Sport	for HPS only for education only
HST	101	History of Western Civilization from its Classical Roots to 1715	
HST	102	History of Western Civilization Since 1715	
HST	198	Honors History Seminar	
HST	251	American History to 1865	
HST	252	American History Since 1865	
HST	302	History of Ancient Greece	for CMM, ENG, PHL only
HST	305	Medieval Europe	for ENG, PHL, REL only
HST	314	Modern Europe in Decline, 1890-1945	
HST	315	Europe in the Post-War Era, 1945 to the Present	
HST	322	History of England	for ENG only
HST	330	History of East Asia	for INS (East Asia only)
HST	340	History of Science	
HST	341	Historical Perspectives on Science, Technology, and Society	} for engineering, BIO, CHM, CPS, HPS, GEO, HEC, MTH, PHY only
HST	345	Ireland and America	
HST	351	History of American Women	for FDV, WST minors; AMS, CRJ, HEC, SWK minors, only
HST	352	History of the American Family	for FDV minor, AMS, HEC, PSY, SWK minors, only
HST	355	American Urban History	for CRJ, HEC, SOC, SWK minors, only
HST	357	Latin America in the Twentieth Century	for INS (Latin America only), secondary education (SPN only)
HST	370	Economic History of the United States	for business, B.A. ECO, SWK minors, only
HST	371	History of American Business	for business, B.A. ECO, only
HST	376	Social and Cultural History of the United States	for AMS, CMM, CRJ, REL, SWK only

HST	424	English Constitutional and Legal History	for pre-law only
HST	460	U.S. Legal and Constitutional History I	for pre-law, CRJ only
HST	466	History of Science, Technology, and the Modern Corporation	for business, engineering, BIO, CHM, CPS, B.A. ECO, HPS, GEO, HEC, MTH, PHY only
HST	467	History of Civil Engineering	for engineering only
MUS	301	Music History and Literature I	for MUE, MUS only
PSY	471	History of Psychology	for PSY only
THR	415	History of Theatre I	for THR only
VAH	382	History of Photography I	for PHO only
VAH	470	Nineteenth-Century Art I	} for ART, EAR, HEC only
VAH	471	Nineteenth-Century Art II	
VAH	480	Twentieth Century Art	

PHILOSOPHY AND RELIGIOUS STUDIES

Having completed Philosophy 103 and Religious Studies 103 as part of the Humanities Base, students are required to take an additional two courses in Philosophy and/or Religious Studies courses to satisfy General Education requirements. (At least one of these must be an upper-level (300-400) course.) Advising guidelines are available from the Department of Philosophy and the Department of Religious Studies. Again, this domain of knowledge may be satisfied by Philosophy and/or Religious Studies courses that are either included in or independent of a Thematic Cluster. Approved General Education courses that satisfy the Philosophy and Religious Studies domain of knowledge outside a cluster are:

ASI	101	Development of Philosophy and Religion in the West I	} for CORE only
ASI	102	Development of Philosophy and Religion in the West II	
EDT	419	Philosophy of Education	for education and E11 only
PHL	201	Practical Logic	
PHL	304	Philosophy of Human Nature	
PHL	306	Philosophy of Knowledge	
PHL	307	Philosophy and Women	
PHL	308	Metaphysics	
PHL	309	Philosophy of Mind	
PHL	310	Social Philosophy	
PHL	311	Philosophy of Religion	
PHL	312	Ethics	
PHL	313	Business Ethics	
PHL	314	Philosophy of Law	
PHL	315	Medical Ethics	
PHL	316	Engineering Ethics	
PHL	317	Ethics and Modern War	
PHL	318	Family Ethics	
PHL	319	Information Ethics	
PHL	320	Philosophy of Art	
PHL	323	Philosophy and Literature	
PHL	325	Philosophy of Music	
PHL	327	Philosophy of Peace	
PHL	330	Philosophy of Science	

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PHL	331	Science, Objectivity, and Values	
PHL	332	Technology and Values	
PHL	344	CORE Seminar in Philosophy	for CORE only
PHL	345	Honors Seminar in Philosophy	for honors program only
PHL	350	Classical Greek Philosophy	
PHL	351	Medieval Philosophy	
PHL	352	Modern Philosophy	
PHL	353	Contemporary Philosophy	
PHL	355	Eastern Philosophy	
PHL	356	Christian Philosophy	
PHL	358	Marxist Philosophy	
PHL	359	Phenomenology	
PHL	360	Existentialism	
PHL	361	American Philosophy	
REL	140	Catholicism Today	only for students entering as first-year undergraduates before Aug. 1993
REL	146	Dynamics of Religion	
REL	201	Selected Religions of the East	
REL	202	Religions of the Middle East	
REL	211	Old Testament in Modern Study	
REL	212	New Testament in Modern Study	
REL	213	Religion and Values in Ancient Israel	for CORE only
REL	265	Christian Ethics	
REL	305	Ancient Near Eastern Religions	
REL	306	Buddhism and Christianity	
REL	307	Judaism	
REL	310	The Pentateuch	
REL	311	The Prophets	
REL	312	The Psalms and Wisdom Literature	
REL	316	The Synoptic Gospels	
REL	317	Studies in John	
REL	318	Studies in Paul	
REL	323	History of Christianity I	
REL	324	History of Christianity II	
REL	327	U.S. Protestant and Jewish Experience	
REL	328	U.S. Catholic Experience	
REL	340	The Church	
REL	341	Significance of Jesus	
REL	343	The Sacraments	
REL	344	Christian Marriage	
REL	349	Search for Immortality	
REL	356	The Christian Tradition of Prayer	
REL	361	CORE Religion Seminar	for CORE only
REL	362	Christian Family Values and Television	
REL	367	Christian Ethics and Health Care Issues	
REL	368	Christian Ethics and the Business World	
REL	369	Christian Ethics and Engineering	
REL	371	The New Religions and Personal Transformation	

REL	372	Religion and Film
REL	373	Religion and Literature
REL	374	Religion and Art
REL	376	Theology and the Social Sciences
REL	377	The Inner Journey in Myth, Bible, and Literature
REL	383	Philosophy of Religious Education
REL	385	Lay Ministry
REL	406	Jewish Thought
REL	441	Theology of Mary
REL	442	God and Atheism
REL	447	Selected Catholic Doctrines
REL	463	Peace and Justice
REL	466	Theology of Sexuality
REL	471	Women and Religion
REL	472	Ecology and Religion
REL	477	Religion and Science
REL	488	Spirituality and Religious Education

PHYSICAL AND LIFE SCIENCES

All students must complete two Physical and Life Sciences courses to satisfy General Education requirements. This requirement may be satisfied by Physical and Life Science courses that are included in or independent of a Thematic Cluster. Approved General Education courses that satisfy the Physical and Life Sciences domain of knowledge outside a cluster are:

ASI	299	Honors Science Seminar	for honors program only
BIO	101	General Biology I	
BIO	102	General Biology II	not for BIO, DEN, MED
BIO	152	Concepts of Biology II	
BIO	390	Physiology of Sex and Fertility Regulation	for FDV minor only
BIO	395	Biology and Social Issues	
BIO	398	Heredity and Society	
BIO	412	General Genetics	
CHM	115	College Preparatory Chemistry	
CHM	123	General Chemistry	
CHM	124	General Chemistry	
CHM	200	Chemistry and Society	
CHM	496	Professional Practices Seminar	for CHM only
CPT	122	General Chemistry	for EET, IET, MFG, MCT only
CPT	214	General Chemistry with Case Studies	
CPT	215	The Chemical Industry— Technology and Issues	
EGR	201	Technology and the Engineering Method	not for engineering
GEO	103	Principles of Geography	not for BIO, CHM, GEO, PHY, or those who have taken GEO 109 or 115
GEO	109	General Geology	
GEO	115	Physical Geology	
GEO	116	Historical Geology	

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GEO	208	Environmental Geology	
GEO	218	Engineering Geology	
HPS	305	Human Anatomy	
HPS	306	Human Physiology	for HPS, MUT only
PHY	105	Physical Science	
PHY	108	Physical Science of Light and Color	
PHY	201	General Physics	
PHY	202	General Physics	
PHY	203	Modern Technical Physics	
PHY	206	General Physics I—Mechanics	
PHY	206H	General Physics I—Mechanics	for honors program only
PHY	207	General Physics II—Electricity and Magnetism	
PHY	207H	General Physics II—Electricity and Magnetism	for honors program only
PHY	208	General Physics III— Mechanics of Waves	
PHY	208H	General Physics III— Mechanics of Waves	for honors program only
PHY	250	Descriptive Astronomy	

SOCIAL SCIENCES

All students must complete one Social Science course to satisfy General Education requirements. This requirement may be satisfied by Social Science courses that are either included in or independent of a Thematic Cluster. Approved General Education courses that satisfy the Social Science domain of knowledge outside a cluster are:

ANT	150	Cultural Anthropology	
ASI	298	Honors Social Science Seminar	for honors program only
ECO	203	Principles of Microeconomics	
ECO	204	Principles of Macroeconomics	
HEC	318	Family Living	
HEC	321	Consumer Economics	
HEC	341	Consumers and Social Issues	
POL	101	Government and Society	
PSY	101	Introductory Psychology	
PSY	341	Social Psychology	
SOC	204	Modern Social Problems	
SOC	331	Marriage and the Family	
SOC	341	Self and Society	
SOC	352	Community	
SWK	101	Social Welfare and Society	

GRADES AND SCHOLARSHIP

Final grades are submitted at the end of the term, and these are made part of a student's permanent record in accord with the option chosen by the student. Copies of these reports are given to the students and deans. A progress report of every first-year student in each of the classes is submitted to the Registrar by every instructor at the middle of each term.

Undergraduate students are permitted a selection from two alternative grading options. The course grading options are as follows:

Option 1—A, B, C, D, F

Option 2—S/NC—Satisfactory (A, B, C)/No Credit (D, F)

Option 3—EM—Examination Credit

A student must take at least seventy-five per cent (75%) of the semester hours in the degree program under option 1, subject to further restrictions set by the college, the professional school, or the department in which he or she is a major, and excepting special programs, at the discretion of the deans. NOTE: Studies have shown that Satisfactory/No Credit grades (option 2) on one's academic record may be a negative factor in the evaluation of application for transfer to some undergraduate schools, for admission to most professional schools (law, medicine, etc.) and many graduate schools, and for employment in some fields.

The official marks with their meanings and quality-point values are as follows:

- A — Excellent; for each semester hour, four quality points are allowed.
- B — Good; for each semester hour, three quality points are allowed.
- C — Fair; for each semester hour, two quality points are allowed.
- D — Poor but passing; for each semester hour, one quality point is allowed.
- F — Failed. This mark indicates poor scholastic work, or failure to report withdrawal from a course. In such cases, required courses must be repeated, preferably at the next opportunity. A student may not take the course a third time unless at the time of the second failure he or she has a cumulative point average of 2.5 or higher. Under no circumstances will any student be permitted to take a course a fourth time.
- S — Satisfactory. This mark indicates credit given for a course taken under grading option 2, C or above. The S credit shall be counted as hours only and shall not be considered in determining a student's cumulative point average.
- NC—No Credit. This mark indicates no credit given for a course taken under grading option 2, below C. In such cases, required courses must be retaken, preferably at the next opportunity. The student may not take the course a third time unless at the time of the second failure he or she has a cumulative point average of 2.5 or higher. Under no circumstances will any student be permitted to take a course a fourth time.
- I— Incomplete. This grade indicates that the student has obtained the instructor's recommendation, subject to the chairperson's approval, to complete some portion of the work of the term that for reasons beyond the student's control was not completed before the end of the term, provided that the rest of the work has been of satisfactory grade. An I must be removed within thirty days from the date listed on the grade report, or it will be changed to an F or NC (option 2) on the student's permanent record. The time limit may be extended under exceptional circumstances, with the approval of the dean, if application for the extension is made within the thirty-day period noted.
- W— Withdrawn. During the first three weeks of a full term (or the first eight class days of a split term) a student may withdraw from a class without record by obtaining a drop (withdrawal) form from the Registration Office, having it signed by the academic advisor, and processing it. Beginning with the fourth week of the term and continuing through the fourth week after mid-term (or the ninth class day of a split term and continuing through the fourth week of

the split term), a student may withdraw with a W by the same process, except that the drop form must have the approval signature of the instructor as well as that of the advisor. For the remainder of the term, until the last day of classes, a student may withdraw with a W only by making a formal request to the dean, who consults with the student's instructor before granting such a request. During this period a W will be permitted only for special nonacademic reasons, which include, but are not limited to, poor personal health, financial difficulties, family matters of health, and change in career objectives. When a student finds it necessary to withdraw from the University, for any reason whatsoever, it is important that the dean be notified immediately. Financial adjustments, if allowed, will be made only from the date on the withdrawal form. Total withdrawal from all classes requires the processing of the drop form. This requires two signatures—those of the Dean and the Vice President for Student Development, or of the designated authorities for those signatures. It is the student's responsibility to initiate and process all withdrawals; the faculty do not initiate withdrawals for students except for auditors. (See X below.) In addition, the student is urged to process the withdrawal as soon as possible after deciding to drop a course. Students cannot assume that withdrawals are granted automatically if they stop attending class. Any failure to process the drop (withdrawal) form will incur a grade of F for the course or courses involved. The F's so accumulated are always included in the cumulative point average.

- P — In Progress. This symbol is used in lieu of a grade for a course which has not terminated at the end of a term or summer session. A grade with corresponding credit and quality points (see grading options 1 and 2) will be assigned when the course has been completed.
- N— No grade was reported by the instructor.
- K— Credit. This mark is used only for credits accepted as transfer credit from other institutions. No quality points are allowed. K credit is not allowed for English courses taken at institutions in countries where the native language is other than English.
- X— Audit. This mark indicates that the student has registered to audit the course. No credit hours or quality points are awarded for this mark. Any course taken for audit may not be retaken for credit. If, in the opinion of the instructor, a student has not attended and participated in a sufficient number of classes, the instructor will assign a W.
- EM— Examination. This mark indicates University of Dayton credit given to a student on the basis either of the Advanced Placement Program of the CEEB or of examinations taken prior to or after admission to the University. The required level of achievement on these examinations is determined by the department in which the course is taught. This credit shall be assigned only on authorization of the dean of the school or college in which the student is registered. No quality points are allowed. A student must be registered at the University of Dayton to obtain credit. EM credit is limited to 24 semester hours (exclusive of AP and CLEP General Examination credits).

NO GRADE CHANGE OF ANY KIND IS PERMITTED AFTER THIRTY DAYS FROM THE DATE LISTED ON THE GRADE REPORT.

The University reserves the right to change the grading system.

GRADE-POINT AVERAGES

The SEMESTER GRADE-POINT AVERAGE is the total number of quality points divided by the number of semester credit hours carried by the student under option 1.

The CUMULATIVE GRADE-POINT AVERAGE is computed from the semester grade-point averages. If a course is repeated, the grade points for both the original grade and the new grade are computed. Marks of I, K, N, P, S, W, X, NC, and EM are disregarded in the computation of the CGPA, but a course for which an F is received is included in the usual manner.

ACADEMIC STANDING

The student's academic standing is determined by the cumulative grade-point average at the end of each term.

1. To be in good academic standing, a student must have a cumulative grade-point average of (a) at least 1.7 at the end of the first and second terms, (b) at least 1.8 at the end of the third term, (c) at least 1.9 at the end of the fourth term, and (d) at least 2.0 at the end of the fifth and succeeding terms. For part-time and transfer students, a block of 12 semester hours of credit is considered one term. A cumulative grade-point average of at least 2.0 is required for graduation.

2. A cumulative grade-point average below the one required will place the student on academic probation. The student's academic dean will notify the student of his or her probationary status. A student on probation must follow a restricted academic program not to exceed 15 semester hours.

3. It is the responsibility of any student on academic probation to complete a contract with the dean for the purpose of determining the nature and limitations of the student's future academic and extracurricular activities.

4. Students whose academic performance has seriously impaired their ability to succeed academically at the University of Dayton are subject to dismissal. A student who is subject to academic dismissal can be dismissed only by his or her academic dean, who authorizes the dismissal and notifies the student of his or her status. Students who are subject to dismissal include (a) those who fail to achieve good standing at the end of a term on probation and (b) those who have a term point average of less than 1.0, regardless of cumulative grade-point average.

5. The registrar will post "Academic Dismissal" on the permanent record of any student who is dismissed.

DEAN'S LIST

At the conclusion of the fall and the spring terms, in both the college and the professional schools, any full-time student who has achieved a superior academic record (a grade-point average of 3.5 or above) for the term just ended is named to the dean's list. Any part-time student with the required grade-point average (3.5 or above) is eligible for the dean's list after completing 12 or more semester hours of credit and will subsequently be named to the dean's list each time an additional increment of 12 or more semester hours of credit is completed. No dean's list is compiled for the summer term.

HONORS

1. To be eligible for consideration for honors graduation, students must have completed seventy-five percent (75%) of the semester hours taken at the University of Dayton under the standard grading option, option 1 (A, B, C, D, F).

2. To be graduated with honors, a student must have a cumulative point average at the end of the seventh and/or eighth term at the University of 3.5 or higher, based on 4.0

3. If a student qualifies for honors or moves into a higher category of honors on the basis of his or her graduation cumulative grade-point average, mention will be made at the commencement exercises, notation will be made on the transcript and permanent record, and an appropriate honors key will be awarded belatedly.

4. A transfer student who has fulfilled the University's minimum residence requirements is eligible for honors, provided that all grades received in courses at previous institutions and accepted as graduation credits, and grades received at U.D. result in a cumulative grade-point average of 3.5 or higher based on 4.0 and the student has met all the other requirements stated in this policy. The category of honors will be determined by (a) the combined cumulative grade-point average, if the average for U.D. courses is higher than the combined average, or (b) the U.D. cumulative grade-point average, if the combined cumulative grade-point average is higher than the U.D. average. That is, transfer students will not be given honors at a level higher than the U.D. grade average.

5. The notation of honors is made in the commencement program, on the diploma, on the student's permanent record, and on the transcript, as follows:

Cum Laude—if the cumulative point average is between 3.5 and 3.69;

Magna Cum Laude—if the cumulative point average is between 3.7 and 3.89;

Summa Cum Laude—if the cumulative point average is between 3.9 and 4.0.

6. Any exceptions to this procedure are the decision of the provost.

CLASS ATTENDANCE POLICY

It is desirable for students to attend all classes. Listening to the lectures of instructors and being involved in classroom discussions should (1) provide guidelines and goals in the course of study, thus lending direction to the study activities of the student; (2) provide instances of the way of thinking and methodology employed by an academic discipline in formulating and solving problems; and (3) stimulate an awareness of and interest in the course topics beyond the level acquired by textbook reading. Because textbook material is generally beneath the level of the current state of knowledge, instructors acquaint the student with new ideas and integrate this material into the course topics.

Students are responsible for being aware of the proceedings and material covered in each class period. Students must attend all announced tests and submit assigned written work on the date set by the instructor; it is recommended that the instructor announce such tests and assignments at least a week in advance. The action taken as a consequence of missing a test or an assignment will be determined by the instructor and will be based on a consideration of the individual circumstances involved.

To assist first-year students in their transition to college responsibilities, it is felt that a policy of compulsory attendance is necessary. Therefore, first-year students will be permitted only a limited number of absences. For first-year students, the

allowable number of absences in the first term or in the second term will be equal to twice the meeting times a week (or four class days in any third-term session). A student exceeding this number will be referred to the student's dean for possible counseling and appropriate action. Any undergraduate student who has not accrued 30 semester hours of credit is considered a first-year student.

In addition to the first-year-student policy, faculty may institute an attendance requirement. This may be done for any course (including seminars, laboratories, performance courses, clinical field-based courses, and the like) provided that the policy is approved by a faculty committee of the department and/or the department chair. If attendance is used as a grading component, the instructor is obligated to clarify his or her classroom policy regarding absences in writing in the syllabus provided during the first full week of the semester. Let it be noted that to insure accuracy of records, every student must be present at class during the first week of each term.

STUDENT RECORDS

The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law which states that an educational institution must establish a written institutional policy concerning the confidentiality of student education records and that students must be notified of this statement of policy and their rights under the legislation. In accordance with the act, students and parents of dependent students at the University of Dayton have the following rights:

1. The right to inspect and review educational records covered by the Act or personally identifiable information contained therein
2. The right to challenge the contents of these records
3. The right to a formal hearing, if necessary, for a fair consideration of such a challenge
4. The right to place an explanatory note in the record in the event that a challenge of contents is unsuccessful
5. The right to control, with certain exceptions, the disclosure of the contents of the records
6. The right to be informed of the existence and availability of the institutional policy covering FERPA rights
7. The right to report violations of FERPA legislation to the Department of Education.

A complete policy statement on student records in accordance with the requirements of FERPA can be found in the student handbook, published by the Office of Student Development. Copies of the policy also are available at the following University offices: Vice President for Student Development and Dean of Students, Provost, and Registrar.

TRANSCRIPTS

A transcript of the permanent academic record is a confidential document to be released in compliance with the regulations of the Family Educational Rights and Privacy Act of 1974 as amended. The Registrar will issue transcripts upon a request signed by the student. All transcripts so requested require payment in advance. See "Other Charges" in Chapter IV, Financial Information. Complimentary copies will be mailed to graduates approximately six weeks after graduation.

AWARDS

Special awards for exceptional scholastic achievement are given annually through the generosity of donors. To be eligible for any of these awards, a student must have a cumulative point average of at least 3.0. The awards:

Accounting—The Award of Excellence to the Outstanding Senior in Accounting—donated by Jerome E. Westendorf, '43, and Warren A. Kappeler, '41.

Accounting—The Award of Merit in Recognition of Outstanding Achievement—donated by the Ohio Society of Certified Public Accountants, Dayton Chapter.

Accounting—The Accounting Career Award to a Student Exhibiting Great Potential in the Accounting Profession—donated by the Institute of Management Accountants, Dayton Chapter.

Accounting—The Department of Accounting Award to the Graduating Senior for Outstanding Contributions to the University Community and the Accounting Program.

Anthropology—The Margaret Mary Emonds Huth Memorial Award of Excellence to the Outstanding Senior in Anthropology—donated by Dr. Edward A. Huth.

Arts and Sciences—The Dean Leonard A. Mann, S.M., Award of Excellence to the Outstanding Senior in the College of Arts and Sciences—donated by Joseph Zusman, '65.

Athletics—The Reverend Charles L. Collins, S.M., Award of Excellence to an Athlete for Outstanding Citizenship—donated by Joseph Zusman, '65.

Athletics—The Charles R. Kendall, '29, Memorial Award of Excellence for Achievement in Academic and Athletic Effort—donated by Mrs. Charles R. Kendall and friends.

Athletics—The John L. Macbeth Memorial Award to the Outstanding Scholar-Athlete in Football and Basketball. The recipient must have completed five or more terms and won a varsity letter.

Biology—The John E. Dlugos, Jr., Memorial Award of Excellence to the Outstanding Senior Majoring in Biology—donated by Mr. and Mrs. John E. Dlugos.

Biology—The Brother Russell A. Joly, S.M., Award of Excellence to the Student Who Best Combines Excellence in Biology and Genuine Appreciation of Nature.

Business Administration—The Reverend Raymond A. Roesch, S.M., Award of Excellence for Outstanding Academic Achievement in the Master of Business Administration Program—donated by Bank One.

Business Administration—The Miriam Rosenthal Award of Excellence to a Graduating Senior in the School of Business Administration—donated by Dean William J. Hoben.

Business Administration—The Mark T. Schneider Award to a Senior in the School of Business Administration Who has Combined Academic Excellence with Service to the University and the Community—donated by family and friends in his memory.

Business Education—The National Business Education Association Award of Merit in Recognition of Outstanding Achievement.

Campus Ministry—The Marianist Award for Voluntary Service to a Graduating Senior Who has Earned Distinction Through Voluntary Service to the Community—donated by the Marianists of the University of Dayton.

Campus Ministry—The Brother Wottle Campus Ministry Award: "An award of appreciation for service to Campus Ministry."

Chemical and Materials Engineering—The Victor Emanuel, '15, Award of Excellence to the Outstanding Senior in Chemical Engineering—sponsored by the University of Dayton Alumni Association since 1962.

- Chemical and Materials Engineering*—The Robert G. Schenck Memorial Award of Excellence to the Outstanding Junior in Chemical Engineering—donated by Stanley L. Lopata.
- Chemistry*—American Chemical Society Award.
- Chemistry*—American Institute of Chemists' Award.
- Chemistry*—The Brother George J. Geisler, S.M., Award of Excellence to the Outstanding Student in Chemistry—donated by Joseph Poelking, '32.
- Chemistry*—The Bernard J. Katchman Memorial Scholarship to an Entering First-Year Student Majoring in Chemistry.
- Chemistry*—The Brother John J. Lucier, S.M., Award of Excellence to the Outstanding Junior Majoring in Chemistry—donated by a friend.
- Chemistry*—The Philip Zaidain Memorial Award to a Deserving Sophomore Majoring in Chemistry.
- Civil and Environmental Engineering and Engineering Mechanics*—The George A. Barrett, '28, Award of Excellence to the Outstanding Junior in Civil Engineering—donated by family and friends in his memory.
- Civil and Environmental Engineering and Engineering Mechanics*—The Harry F. Finke, '02, Award of Excellence to the Outstanding Senior in Civil Engineering—sponsored by the University of Dayton Alumni Association since 1962.
- Communication—Broadcasting*—The Omar Williams Award of Excellence to an Outstanding Student in Broadcasting—donated by the University of Dayton.
- Communication—Debating*—The Mary Elizabeth Jones Memorial Award of Excellence to an Outstanding Debator—donated by Dr. D. G. Reilly.
- Communication—Journalism*—The Ritter Collett Award of Excellence to the Outstanding Senior in Journalism. This is awarded annually to the student who best demonstrates in his person and writings the qualities of Mr. Collett that the University hopes will serve as an inspiration to the Journalism students.
- Communication—Journalism*—The Brother George F. Kohles, S.M., Award of Excellence in Journalism—donated by a friend.
- Communication—Mass Media Arts*—The Si Burick Award of Excellence for Outstanding Academic and Co-curricular Achievement in Mass Media Arts—donated by the University of Dayton.
- Communication—Public Relations*—The PRSA Maureen M. Pater Award of Distinction to the Outstanding Senior in Public Relations—donated by the Dayton-Miami Valley Chapter of the Public Relations Society of America.
- Communication—Speech Arts*—The Reverend Vincent Vasey, S.M., Award of Excellence to the Outstanding Senior in Speech Arts—donated by the Reverend Vincent Vasey, S.M.
- Communication*—The Bette RoggeMorse Award to the Outstanding Senior Woman in Communication.
- Communication*—The Faculty Award for Academic Excellence to the Senior with the Highest Cumulative and Major Grade Point Averages—donated by the Faculty of the Department of Communication.
- Computer Science*—The Addison-Wesley Senior Book Award for Excellence in Computer Science; Computer Information Systems—donated by the Addison-Wesley Publishing Company.
- Computer Science*—Alumni Award of Excellence in the Senior Class.

Academic Regulations

Computer Science—Computer Science Award for Outstanding Service to the Department.

Computer Science—GKM Systems Award for Innovative Programming.

Continuing Education—The Nora Duffy Award to a reentry student who has overcome significant obstacles in order to complete a college degree.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Business Administration—sponsored by the Mead Corporation Foundation.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Computer Science-Computer Information Systems—sponsored by the Marathon Oil Foundation.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Engineering—sponsored by the Dayton Power and Light Company.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Engineering Technology—sponsored by Earl C. Iselin, Jr., in honor of his father.

Criminal Justice—The Sheriff Beno Keiter Memorial Scholarship Award to the Outstanding Criminal Justice Junior or Senior—donated by friends of Beno Keiter.

Economics—The Dr. E. B. O'Leary Award of Excellence to the Outstanding Senior Majoring in Economics—donated by Bank One.

Electrical Engineering—The Thomas R. Armstrong, '38, Award of Excellence for Outstanding Electrical Engineering Achievement in memory of Brother Ulrich Rappel, S.M., and W. Frank Armstrong—donated by Thomas R. Armstrong, '38.

Electrical Engineering—The Anthony Horvath, '22, and Elmer Steger, '22, Award of Excellence to the Outstanding Senior in Electrical Engineering—donated by Anthony Horvath, '22, and Elmer Steger, '22.

Electrical Engineering—The Brother Louis H. Rose, S.M., '33, Award of Excellence to the Outstanding Junior in Electrical Engineering.

Electrical Engineering—The Mary C. Millette Endowment Award for the Outstanding Senior Electrical Engineering student in memory of Mary C. Millette.

Electronic Engineering Technology—The Richard R. Hazen Award of Excellence for the Outstanding Graduate of the Electronic Engineering Technology Program—donated by the alumni and friends of the Department.

Elementary Education—The George A. Pflaum, '25, Award of Excellence to the Outstanding Student in Elementary School Teacher Education—donated by George A. Pflaum, Jr.

Engineering Technology—The L. Duke Golden Award of Excellence to the Outstanding Senior in Engineering Technology—donated by the Gamma Beta Chapter of Tau Alpha Pi Honor Society.

English—The Father Adrian J. McCarthy, S.M., Award of Excellence to a Graduate Assistant for Achievement in Teaching First-year English—donated by a friend.

English—The Brother Thomas P. Price, S.M., Award of Excellence to the Outstanding Senior in English—donated by the U.D. Mothers' Club.

English—The Patricia B. Labadie Award for Excellence in Composition.

English Education—The Dr. Harry E. Hand Memorial Award of Excellence—donated by the faculty of the Department of English and of the School of Education.

Finance—Award of Excellence to the Outstanding Senior Majoring in Finance.

Finance—The Douglas R. Scott “Best Efforts Award” to the Finance Major Deemed to Have Worked the Hardest Both In and Out of the Classroom—donated by Douglas R. Scott.

General Excellence—The Mary M. Shay Award of Excellence in Both Academic and Extracurricular Activities—donated by the Poelking Family.

Health, Physical Education, and Sport Science — The Thomas J. Frericks Award of Excellence to the Outstanding Senior in Sport Management—donated by the faculty of the School of Education.

Health, Physical Education, and Sport Science—The James M. Landis Memorial Award of Excellence for the Outstanding Health, Physical Education, and Sport Science Senior in Science Core Courses.

Health, Physical Education, and Sport Science—The James B. LaVanche Award of Excellence to the Outstanding Scholar-Athlete Graduating in the Department of Health, Physical Education, and Sport Science —donated by the faculty and alumni of the department.

Health, Physical Education, and Sport Science—The John L. Macbeth Memorial Award of Excellence to the Outstanding Student in Health, Physical Education, and Sport Science—donated by Mrs. John L. Macbeth.

History—The Caroline Beauregard Award of Excellence to an Outstanding Junior Majoring in History—donated by family and friends in her memory.

History—The Dr. Samuel E. Flook Award of Excellence to the Outstanding Senior Majoring in History—donated by Dr. Samuel E. Flook.

History—The Betty Ann Perkins Award for Excellence in Women’s and Family History—donated by her family.

History—The Steiner-Beauregard Phi Alpha Theta Service Award—for Significant Service Promoting the Activities of the Delta Eta Chapter (Delta Eta Chapter members only)—donated by Dr. Rocco M. Donatelli.

History—The Dr. George Ruppel, S.M., Award of Excellence in Historical Research.

Human Ecology—The Elizabeth L. Schroeder Award of Excellence to an Outstanding Senior in the Department of Human Ecology for Academic, Departmental, and Professional Performance.

Humanities—The Rocco M. Donatelli Award to the Humanities Senior with the Strongest Quantitative and Qualitative Record in Elective Science Courses.

Industrial Engineering Technology—The James L. McGraw Award to the Outstanding Graduate of the Industrial Engineering Technology Program—donated by the Dayton Chapter of the Institute of Industrial Engineers.

Industrial Engineering Technology—The Raymond B. Puckett Award to the Outstanding Junior in Industrial Engineering Technology—donated by the Dayton Chapter of the Institute of Industrial Engineers.

Languages—The Brother John R. Perz, S.M., Award of Excellence to the Outstanding Senior in Modern Languages.

Languages—French—Brother George J. McKenzie, S.M., Award of Excellence to the Outstanding Senior in French—donated by a friend.

Languages—Spanish—The Dr. James M. Ferrigno Award of Excellence to the Outstanding Senior in Spanish—donated by Enrique Romaguera and Mary A. Ferrigno.

Library—The Brother Frank Ruhlman, S.M., Award of Excellence for Literary Achievement.

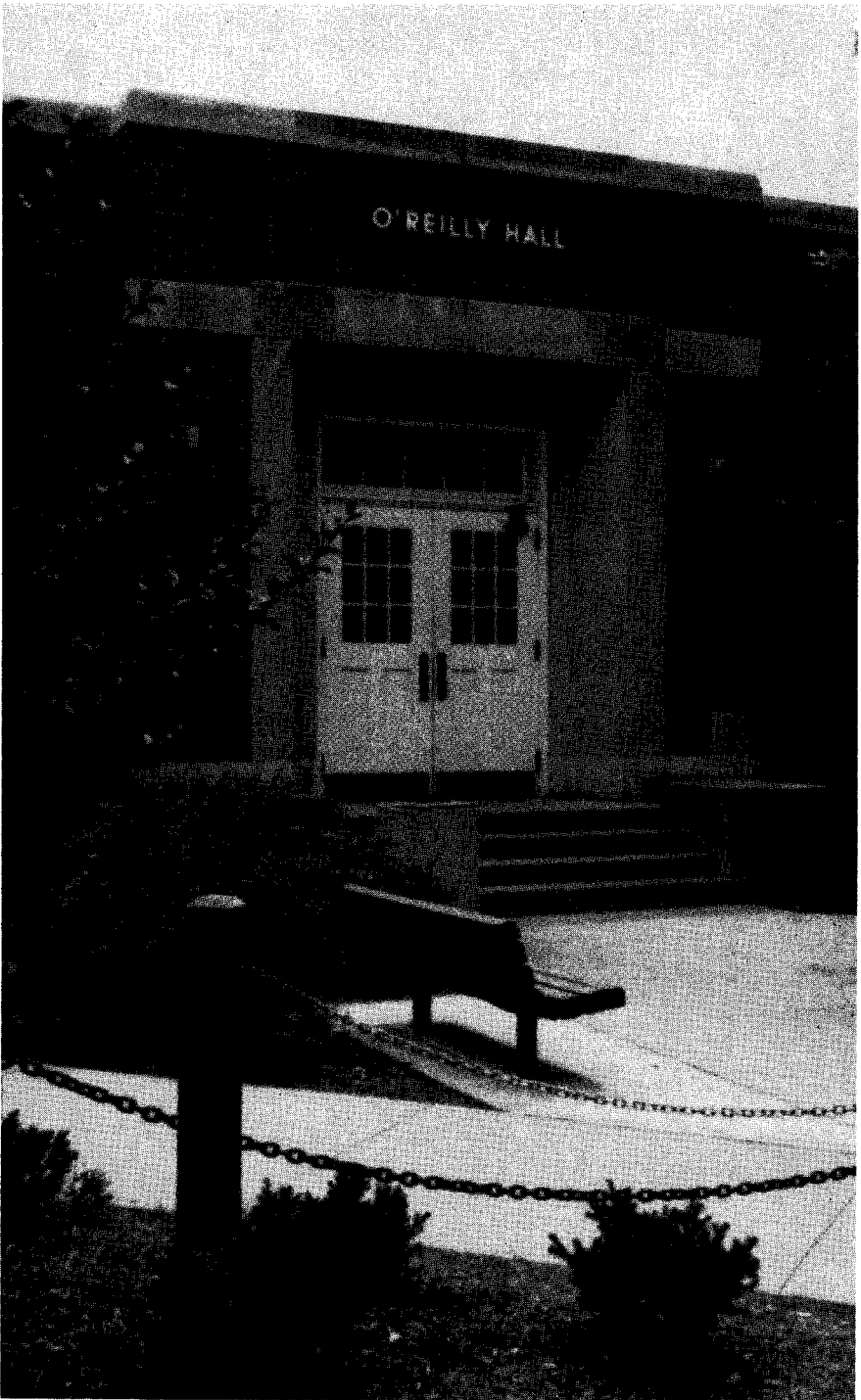
Academic Regulations

- Management*—The Charles Huston Brown, '20, Award of Excellence to the Outstanding Senior in Business Administration in memory of Brother William Haebe, S.M.—donated by C. Huston Brown, '20.
- Management*—The Maurice F. Krug, '51, Award of Excellence to an Outstanding Senior in the Department of Management.
- Management*—The Reynolds and Reynolds Company Award of Excellence to the Outstanding Woman in the Department of Management—sponsored by the Reynolds and Reynolds Company.
- Management*—The Standard Register Company Award of Excellence to an Outstanding Senior in the Department of Management—sponsored by the Standard Register Company.
- Management*—The Wall Street Journal Student Achievement Award to an Outstanding Senior Majoring in Management—sponsored by Dow Jones & Company, Inc.
- Management Information Systems*—Scholarship Award to a Graduating Senior in MIS for Outstanding Academic Achievement.
- Management Information Systems*—Outstanding Student Award to a Graduating Senior in MIS for Outstanding Contributions to the MIS Program.
- Management Information Systems*—Design Project Award to the Team Producing the Best Senior Year MIS Project.
- Manufacturing Engineering Technology*—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence to the Outstanding Graduating Senior in Manufacturing Engineering Technology.
- Marketing*—The Marketing Award of Excellence to the Graduating Senior in Marketing for Outstanding Academic Achievement.
- Marketing*—The Marketing Career Award to the Graduating Student Exhibiting the Greatest Potential in Marketing.
- Marketing*—The Marketing Service Award to the Student Who Has Earned Distinction Through Voluntary Service to the University, the Community, and the Marketing Profession.
- Mathematics*—The Faculty Award of Excellence in Mathematics.
- Mathematics*—The Pi Mu Epsilon Award of Excellence in the Sophomore Class.
- Mathematics Education*—Bro. Joseph W. Stander, S.M., Award of Excellence to a Graduating Senior in the Teacher Certification Program with a Principal Teaching Field in Mathematics.
- Mechanical and Aerospace Engineering*—The Class of '02 Award of Excellence for Outstanding Mechanical Engineering Achievement—donated by Michael J. Gibbons, '02, in memory of Warner H. Kiefaber, '05.
- Mechanical and Aerospace Engineering*—The Bernard F. Hollenkamp, '39, Memorial Award of Excellence to the Outstanding Senior in Mechanical Engineering—donated by Louis A. and Mrs. Lucille Hollenkamp.
- Mechanical and Aerospace Engineering*—The Martin C. Kuntz, '12, Award of Excellence to the Outstanding Junior in Mechanical Engineering—sponsored by the University of Dayton Alumni Association since 1962.
- Mechanical and Aerospace Engineering*—The Brother Andrew R. Weber, S.M., Award of Excellence for Outstanding Service and Achievement in Mechanical Engineering.
- Mechanical Engineering Technology*—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence for Mechanical Engineering Technology Achievement.

- Mechanical Engineering Technology*—The Jesse H. Wilder Award of Excellence to the Outstanding Graduating Senior in Mechanical Engineering Technology—sponsored by the Dayton Chapter, Society of Manufacturing Engineers.
- Medical Technology*—Alumni Award of Excellence to the Outstanding Senior in Medical Technology.
- Military Science*—Department of the Army Award. The Superior Cadet Award, provided by the Department of the Army, presented to the outstanding cadet of each academic year.
- Military Science*—The Lieutenant Robert M. Wallace, '65, Memorial Award to the Outstanding Junior ROTC Scholarship Cadet—donated by his family and friends.
- Music*—The Brother Joseph J. Mervar, S.M., Award of Excellence to an Outstanding Student Majoring in Music.
- Music*—Music Division Senior Award for Outstanding Contribution to the University Bands.
- Music*—Sigma Alpha Iota College Honor Award for Musicianship, Scholarship, and General Contributions to the College Chapter.
- Music*—Sigma Alpha Iota Professional Music Fraternity Honor Certificate to the Chapter's Graduating Senior Who Has Attained the Highest Scholastic Rating.
- Philosophy*—The Award of Excellence to the First and Second Outstanding Seniors in Philosophy—donated by the Reverend Charles Polichek.
- Philosophy*—The Richard R. Baker Award for Excellence in Graduate Studies in Philosophy to a Graduating Student Who Has Earned Distinction in the Study of Philosophy Through Commitment to Philosophical Inquiry, Excellence in Research, and the Ability to Communicate Philosophical Ideas.
- Philosophy*—The Reverend Charles C. Bloemer, S.M., Award of Excellence to the Outstanding Junior Majoring in Philosophy—donated by a friend.
- Physics*—Award of Excellence to a Senior Physics Major Who Has Displayed "Remarkable Talent, Exemplary Industry, Intense Motivation, and Mature Comprehension of Undergraduate Physics"—donated by the Department of Physics.
- Physics*—The Caesar Castro Award of Excellence to a Sophomore for Outstanding Scholarship in the General Physics Lecture and Laboratory Sequence—donated in memory of Caesar Castro by Mrs. C. C. Castro and the Department of Physics.
- Physics*—The Sigma Pi Sigma Award of Merit to a Senior in Recognition of Outstanding Academic Achievement and Involvement in Physics—sponsored by the Department of Physics and the Sigma Pi Sigma honor society of the Society of Physics Students.
- Political Science*—The Brother Albert H. Rose, S.M., Award of Excellence to the Outstanding Senior in Political Science—donated by Joseph Zusman, '65.
- Political Science*—The Eugene W. Stenger, '30, Memorial Award of Excellence to the Outstanding Junior in Political Science—donated by Mrs. Eugene W. Stenger.
- Premedicine*—The Brother Francis John Molz Memorial Award to the Outstanding Senior in Premedicine. This is awarded annually to the student who best demonstrates the qualities of unselfishness, community service, and academic achievement. Sponsored by Alpha Epsilon Delta.
- Premedicine*—Montgomery County Medical Award to the Outstanding Senior in the Premedical Curriculum.

Academic Regulations

- Psychology*—The Reverend Raymond A. Roesch, S.M., Award of Excellence to the Outstanding Student in Psychology—donated by the Reverend Raymond A. Roesch, S.M., '36.
- Religious Studies*—The William Joseph Chaminade Award of Excellence in memory of Mr. and Mrs. George W. Dickson, to the Outstanding Student in Theology—donated by the Reverend John Dickson, S.M., '36.
- Religious Studies*—The Monsignor J. Dean McFarland Award of Excellence to the Outstanding Junior Majoring in Theological Studies.
- School of Education*—The William A. Beitzel Award for the Outstanding Student in Education of the Handicapped— donated by Dean Ellis A. Joseph.
- School of Education*—The Raymond and Beulah Horn Award for an Outstanding Student in the Education of the Developmentally Handicapped—donated by Dean Ellis A. Joseph.
- School of Education*—The Daniel L. Leary Award for the Outstanding Research and Development Activity by a Student Seeking Teacher Certification in the School of Education— donated by Dean Ellis A. Joseph.
- School of Education*—The Frank and Lois New Award for Outstanding Achievement to a Graduating Senior in the Teacher Certification Program with a Principal Teaching Field in Developmentally Handicapped—donated by Frank and Lois New.
- School of Education*—The Reverend George J. Renneker, S.M., Award of Excellence for Outstanding Achievement in Teacher Education.
- Secondary Education*—The Brother Louis J. Faerber, S.M., Award of Excellence to the Outstanding Student in Secondary School Teacher Education—donated by the University of Dayton Mothers' Club.
- Social Work*—The Joseph Zusman, '65, Award of Excellence to the Outstanding Senior in Social Work Studies—donated by Joseph Zusman, '65.
- Sociology*—The Dr. Edward A. Huth Silver Anniversary Award of Excellence to the Outstanding Student in Sociology—donated by Joseph Zusman, '65.
- Sociology*—The Dr. Martin Luther King Memorial Award in Human Relations for Excellence in Scholarship, Christian Leadership, and the Advancement of Brotherhood—donated by Dr. Edward A. Huth.
- Sociology*—The Reverend Andrew L. Seebold Award of Excellence to the Outstanding Senior in Sociology.
- University Advancement*—Award of Excellence for Contribution of Service to the Community.
- Visual Arts—Fine Arts*—The Mary Ann Dunsy Award to an Outstanding Senior in Studio Art.
- Visual Arts—Fine Arts*—The Professor Bela Horvath Award for Excellence in Representational Art.



VI College of Arts and Sciences

Paul J. Morman, Dean

R. Gerald Keil, Associate Dean for Graduate and Administrative Affairs

Mary Jo Vesper, Associate Dean for Undergraduate and Student Affairs

Rae Ellen Huff, Assistant Dean

Sam F. Johnson, Assistant Dean

The College of Arts and Sciences affirms as its primary mission the implementation of the fundamental commitment of the University of Dayton to the discovery, integration, dissemination, and application of truth. The College contributes to the fulfillment of this commitment through curricular programs in the liberal arts and sciences, which are central to the intellectual life of the University. The College provides students instruction in communication skills, critical thinking, social and cultural criticism, computation, scientific reasoning, historical analysis, and religious and moral awareness. These qualities are fundamental and essential to each student's full and integral development as a broadly educated person. The College serves not only its own students but also the students of the professional schools and insures that basic, as well as applied, fields of study are available to all students.

The faculty of the College of Arts and Sciences seek to live, as well as profess, the liberal arts and to pursue teaching and research, community service, and constructive social criticism within the framework of freedom of thought and expression. Within the tradition of liberal education, the faculty are committed to the full and integral development of students, cognizant of the priceless and timeless value of this tradition, and aware of the need to relate the liberal arts to the realities of time, place, and students' legitimate career aspirations.

The faculty of the College of Arts and Sciences, therefore, encourage students to use the resources within their reach: faculty guidance, especially in selecting courses and planning programs; the campus ministry; the social and professional clubs and societies; the campus publications; the many musical, dramatic, and art programs; and especially the opportunity for membership on departmental and campus-wide committees, where students gain experience in working with others on projects of significance to the department or to the College.

The College of Arts and Sciences chooses from its own traditions and convictions, as well as from its role as the principal service unit of the University, a values-oriented approach to education. In all of its programs and throughout its curriculum, the College and its faculty seek to complement excellent substantive instruction with a sense of respect for the role of each person in society and an appreciation of the aesthetic and the spiritual life. These values emerge not only from the College's mission as the chief proponent of the liberal tradition at the University of Dayton, but also from its commitment to Christian educational principles and to the Marianist spirit in education, which is its heritage.

MAJORS AND MINORS

The major is defined as a block of courses totalling at least 24 semester hours of upper-level work in a single discipline; it is sometimes supported by a minor, which is a block of courses totalling at least 12 semester hours of upper-level work. Some minors are defined specifically in the departmental listings.

The Bachelor of Arts is offered in the following areas:

American Studies	History	Photography
Chemistry	International Studies	Political Science
Communication	Interior Design	Psychology
Economics	Languages	Religious Studies
English	Mathematics	Sociology
Fine Arts	Music	Theatre
Geology	Philosophy	

The Bachelor of Science is offered in the following areas:

Biochemistry	Geology	Physics
Biology	Human Ecology	Physics-Computer
Chemistry	Mathematics	Science
Computer Information	Medical Technology	Predentistry
Systems	Nuclear Medicine	Premedicine
Computer Science	Technology	Psychology
Criminal Justice	Physical Science	

Other programs leading to the bachelor's degree:

Fine Arts (B.F.A.)	Music Performance (B.Mus.)
General Studies (B.G.S.)	Music Therapy (B.Mus.)
Music (B.Mus.)	Photography (B.F.A.)
Music Education (B.Mus.)	Visual Communication Design (B.F.A.)

Established Interdisciplinary Majors

American Studies, International Studies, and Premedicine-Pre dentistry are present examples of established interdisciplinary concentrations. Such programs are established by interdisciplinary committees and administered by the chairpersons of the committees.

Individually Designed Interdisciplinary Majors

Students demonstrating extraordinary interest, special skills or needs, and sound academic status may initiate individually designed majors. Such majors are negotiated between the students and the chairpersons of the appropriate departments. Long-range plans for the individually designed majors are submitted to the dean for final approval. Plans may be altered with appropriate supporting rationale and the approval of chairpersons and dean.

FOREIGN LANGUAGE REQUIREMENT

Any student admitted to the College of Arts and Sciences must have had two years of high school study of a single foreign language or make up the deficit at the University. The semester hours of credit received for making up this deficit will not count towards the total number of semester hours required for graduation.

GENERAL REQUIREMENTS FOR ALL BACHELOR OF ARTS PROGRAMS

A minimum of 120 semester hours of approved coursework must be presented for the B.A. At least 54 semester hours must be completed at the 300-400 level. For limitations on credit and restrictions on courses, consult the chairperson and the dean. For departmental or program requirements, consult program schedules A1-A22 or the department chairperson or program director.

	<i>Semester Hours</i>
<i>Major Concentration</i> (with at least 24 semester hours at 300-400 level)	30-45
<i>Breadth Requirement</i> (See Distribution Table below.)	52-61
<i>General Education Requirements:</i> These courses may also be counted for other requirements where applicable. (See Chapter V.)	30
<i>Program and General Electives:</i> These courses must be external to the major discipline. Electives should be approved by the chairperson or dean since some restrictions exist.	14-38

Distribution Table for Breadth Requirement

Courses taken to fulfill the breadth requirement should be external to the major field. Students electing courses in any department should be aware that some introductory or background knowledge may be expected of them even when no specific prerequisite course is listed.

<i>Natural Science:</i> Four semester hours must be in an approved natural science course (Biology, Chemistry, Geology, Physics) with an accompanying laboratory.	7
<i>Mathematics:</i> Three semester hours selected from courses in the Department of Mathematics (MTH 102, 204, 205 excluded)	3
<i>Social and Behavioral Sciences:</i> Anthropology, Economics, Political Science, Psychology, and Sociology. Up to 6 of the 12 semester hours of social and behavioral sciences may, with the approval of the chairperson of the major department or the director of the program, be taken in applied social and professional studies: Criminal Justice, Education, Human Ecology, Management, Marketing, Military Science, Social Work, and appropriate courses in ASI.	12
<i>Humanities:</i> American Studies, Communication, English, History, Humanities Studies, Languages, Music, Philosophy, Religious Studies, Visual Arts, and, with approval of the chairperson of the major department or the director of the program, appropriate courses in ASI. At least one unit of 9 semester hours in a humanities area with at least 3 semester hours at 300-400 level (except Languages and Visual Arts, in which a unit may be 9 semester hours at any level). The remaining 9 semester hours of electives are to be chosen from one or more <i>other</i> departments. (The basic Philosophy, Religious Studies, and communication skills courses do not fulfill this requirement.)	18
<i>Philosophy and Religious Studies</i>	12
<i>Communication Skills</i> (ENG 101-102 or 114 or 198; CMM 101): Each student should demonstrate competence in written and oral communication before the completion of the first year. This competence may be demonstrated through coursework, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean.	0-9

GENERAL REQUIREMENTS FOR ALL BACHELOR OF SCIENCE PROGRAMS

A minimum of 120 semester hours of approved coursework must be presented for the B.S. For limitations on credit and restrictions on courses, consult the chairperson and the dean. For departmental or program requirements consult program schedules S1-S14 or the department chairperson or program director.

	<i>Semester Hours</i>
<i>Major Concentration</i> (with at least 24 semester hours at 300-400 level).	30-60
<i>Breadth Requirement</i> (See Distribution Table below.)	41-50
<i>General Education Requirements:</i> These courses may also be counted for other requirements where applicable. (See Chapter V.)	30
<i>Program Requirements and General Electives:</i> Electives should be approved by the chairperson or dean since some restrictions exist.	10-49

Distribution Table for Breadth Requirement

Courses taken to fulfill the breadth requirement should be external to the major concentration. Students electing courses in any department should be aware that some introductory or background knowledge may be expected of them even when no specific prerequisite course is listed.

<i>Natural Science:</i> Selected from Biology, Chemistry, Geology, and Physics courses with accompanying laboratories.	8
<i>Mathematics, Computer Science:</i> At least 3 semester hours must be in Mathematics, the course(s) to be determined by placement and major program.	6
<i>Social and Behavioral Sciences:</i> Anthropology, Economics, Political Science, Psychology, Sociology. Up to 3 of the 6 semester hours of social and behavioral sciences may, with the approval of the chairperson of the major department or the director of the program, be taken in applied social and professional studies: Criminal Justice, Education, Human Ecology, Management, Marketing, Military Science, Social Work, and appropriate courses in ASI.	6
<i>Humanities:</i> American Studies, Communication, English, History, Humanities Studies, Languages, Music, Philosophy, Religious Studies, Visual Arts, and, with the approval of the chairperson of the major department or director of the program, appropriate courses in ASI. (The basic Philosophy, Religious Studies, and communication skills courses do not fulfill this requirement.)	9
<i>Philosophy and Religious Studies</i>	12
<i>Communication Skills</i> (ENG 101-102 or 114 or 198; CMM 101): Each student should demonstrate competence in written and oral communication before the completion of the first year. This competence may be demonstrated through coursework, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean.	0-9

DEGREE REQUIREMENTS

For the bachelor's degree, it is necessary to complete all the requirements listed in one of the programs in this chapter. A maximum of four semester hours of general activities courses, a maximum of two semester hours of physical education activities courses, a maximum of ten semester hours of MIL courses, and a maximum of six hours of technology courses may be counted in the semester hours required for the degree. The final 30 semester hours must be earned in residence at the University of Dayton.

GRADUATION REQUIREMENTS

1. It is the responsibility of the student to file his or her Candidate for Graduation card in the office of the Dean of the College of Arts and Sciences.

2. For graduation, it is necessary that the student successfully complete an approved program of studies in the College; that the standard grade point average be at least 2.0 in the major field, in the minor field, and in the total program. In the Bachelor of Fine Arts and Bachelor of Music Programs, a 2.0 cumulative grade point average is required in the nonprofessional courses as well as in the professional courses.

INTERNSHIP PROGRAM

The Internship Program is an educational work experience with an outside agency, in which a full-time student registers for on-the-job work performed without direct supervision by academic personnel. Such work can be performed in a variety of areas; however, the general purpose of all internships is to serve as transition between the world of study and the world of work.

Normally a departmental internship director or another designated faculty member will make all contacts with prospective agencies for placing students as interns. While students themselves may initiate contacts at possible sites, all sites must be ruled acceptable by the director before an internship may begin.

In order to accomplish the general purpose of an internship, the student must adhere to the following requirements:

- To be eligible for an internship, a student must be in good standing at the University of Dayton and have successfully completed course work in areas appropriate to the internship sought.
- An intern may receive no more than six semester hours of credit in any semester for internship.
- No more than twelve semester hours of work experience credit in any kind of internship or work experience program can be accepted toward a baccalaureate degree.
- The student intern will submit a daily log and a written report to the internship director at the conclusion of the internship.

Other procedures and requirements in addition to those mandated by the College may be imposed by departments for individual programs to meet the specific nature of a given internship.

Interested students should see the internship directors in their respective departments for further details.

AMS

AMERICAN STUDIES (AMS)

In this interdisciplinary program, students take courses in their choice of a dozen fields, thereby learning the skills of integrating, coordinating and making connections. The program, one of four hundred nationwide, is most appropriate for those whose interests encompass several traditional majors.

PROGRAM A1: BACHELOR OF ARTS WITH A MAJOR IN AMERICAN STUDIES (AMS)¹

	<i>Semester Hours</i>
AMS 200, 300, 301, 400	12
First area courses	24
Courses from Group A or B or C	15
Supporting courses in the elected disciplines	9
Second area courses from one of the two remaining groups	9
Third area courses from the remaining group	6

Group A

ENG	305, 317 ² , 319 ² , 320 ² , 325, 327, 329 ² , 331 ² , 332 ² , 335, 337, 339, 380 ² , 451, 453, 455, 468, 490 ²
MUS	304, 305, 306, 307, 404 ²
VAH	370, 482, 480, 490 ²

Group B

HST	351, 352, 355, 365, 370, 371, 375, 376, 380, 391, 398, 399, 417, 450, 454, 456, 460, 461, 466, 470, 473, 476, 477, 479, 490, 491 ² , 492 ² , 495, 499 ²
PHL	304, 310, 311, 314, 317, 318, 320, 323, 330, 331, 340 ² , 361
REL	326, 327, 328, 364, 367, 371, 372, 373, 376, 385, 477

Group C

ECO	346, 347, 430, 442, 445, 471, 485, 490
POL	301, 303, 310, 311, 313, 335, 350, 360, 408, 411, 413, 450, 471, 475
PSY	334, 341, 351, 361, 363, 443, 461, 462, 471
SOC	321, 328, 336, 337, 339, 341, 343, 351, 352
ANT	310, 315, 335, 353, 406, 449
SWK	311

Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²This course can be counted only when the material is appropriate to American Studies. Consult program director.

AMERICAN STUDIES COMMITTEE

Francis J. Henninger (English), *Director, American Studies Program*
Arons (English), Bregenzer (Sociology, Anthropology and Social Work),
Cadegan (History), Kimble (Psychology), Kunkel (Philosophy)

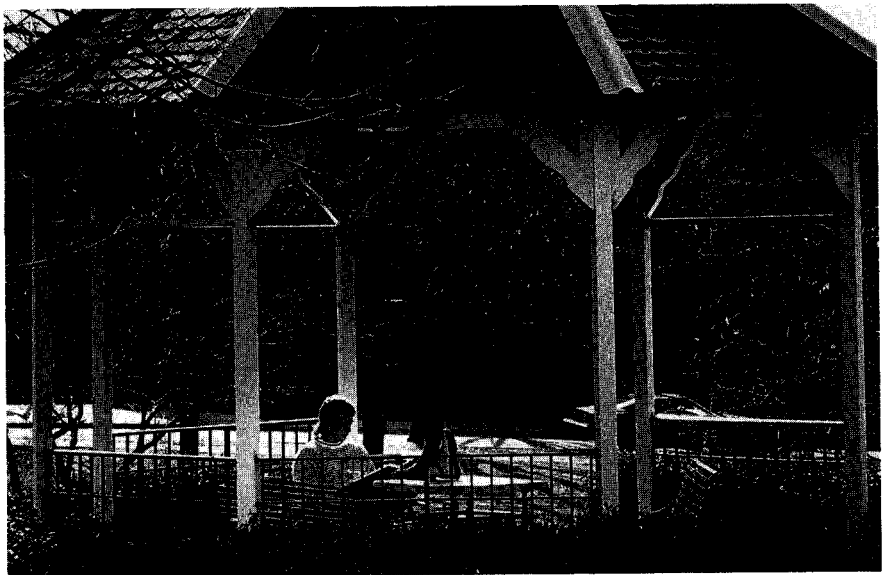
COURSES OF INSTRUCTION

AMS 200. INTERDISCIPLINARY AMERICA: An introduction to the study of American culture, using methods and theory from a variety of disciplines to explore three periods pivotal to the definition of "American." *3 sem. hrs.*

AMS 300. AMERICAN CULTURES: Study of American artifacts to discern how they indicate the periods in the life of the civilization and how like artifacts can be used to determine the stages of development of various peoples. *3 sem. hrs.*

AMS 301. INTERPRETATIONS OF AMERICAN CULTURE: Critical study of various interpretations of American culture through more than a hundred years. *3 sem. hrs.*

AMS 400. INTERDISCIPLINARY RESEARCH: Study of the principles of interdisciplinary scholarship; what can and probably cannot be accomplished by it; successful interdisciplinary accomplishments. Students will complete interdisciplinary projects. *3 sem. hrs.*



ANT

ANTHROPOLOGY (ANT)

Anthropology is the study of people at all times and places. It emphasizes understanding total cultural systems. The Department of Sociology, Anthropology, and Social Work offers a minor in anthropology. Students intending to minor in anthropology should consult with the department chairperson to plan their selection of courses, which must include ANT 150 and four courses at the 300-400 level. See also SOC.

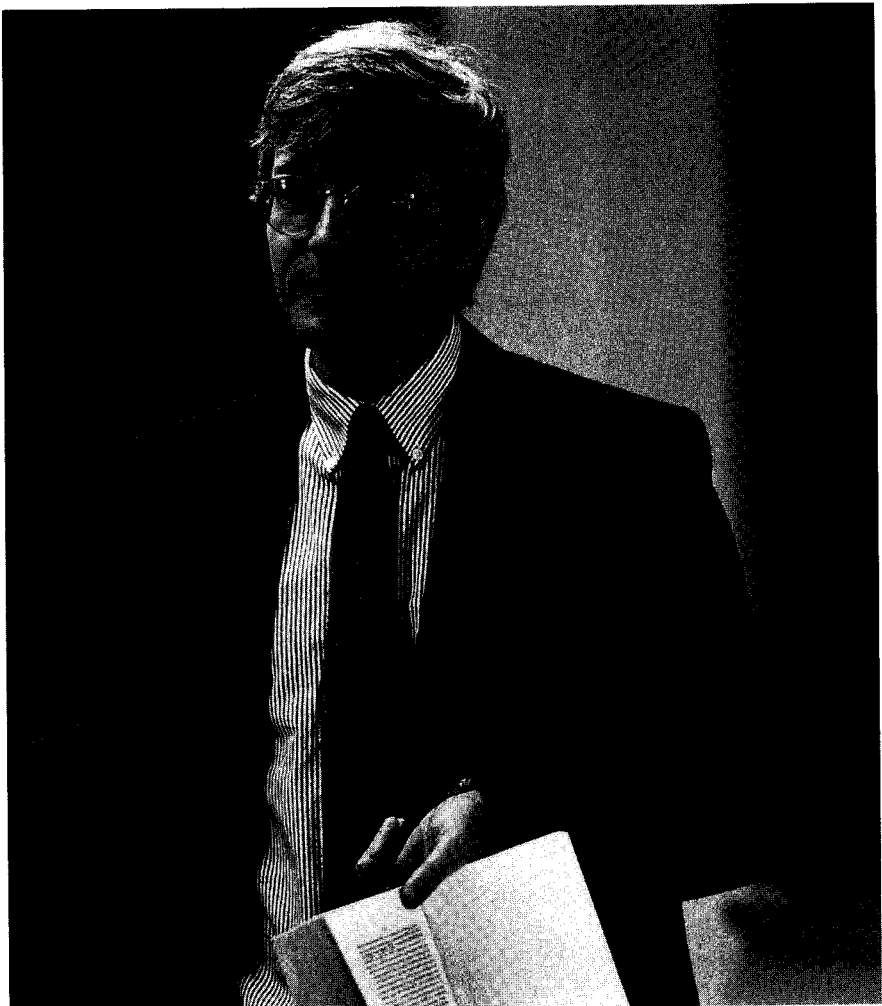
COURSES OF INSTRUCTION

- * ANT 150. CULTURAL ANTHROPOLOGY: Basic principles of cultural anthropology. Survey of human adaptation to and adjustment of the environment by means of culture; comparison of ways of life among peoples of the world for inferences toward understanding human behavior. Required for anthropology minors. *3 sem. hrs.*
- ANT 300. EVOLUTION OF PEOPLE AND CULTURE: Survey of human biological and cultural evolution from prehuman ancestors to settled city-states. Consideration of contemporary peoples at various levels of social complexity. *3 sem. hrs.*
- ANT 310. CULTURE AND PERSONALITY: Survey of studies investigating the relationship between cultural environment and the individual. Material drawn from both literate and nonliterate societies. *3 sem. hrs.*
- ANT 315. LANGUAGE AND CULTURE: Introduction to the scientific study of language and its relationship to other aspects of human behavior. *3 sem. hrs.*
- ANT 335. URBAN ANTHROPOLOGY: Survey of anthropology research on urban issues. Considers how cities arose and how urban people make a living, organize, and think. Considers urban futures. *3 sem. hrs.*
- ANT 351. CULTURES OF THE CARIBBEAN: Variety of African- and Old World- derived cultures in the Caribbean and on its borders. Social-scientific topics such as effects of mother-centered families on personality, importance of verbal behavior in these cultures, problems of I.Q. testing in cultures other than where the tests originate, economic adaptations, political movements, religious practices. *3 sem. hrs.*
- ANT 352. CULTURES OF LATIN AMERICA: Origin and development of ancient civilizations including the Aztec, the Maya, and the Inca. Survey of contemporary cultures, with special emphasis on peasant life. *3 sem. hrs.*
- ANT 353. NATIVE CULTURES OF NORTH AMERICA: Consideration of the origins and diversity of American Indian cultures north of the Rio Grande, with attention to language, cultural adaptation to environment, and acculturation without assimilation. The present situation of the Indian in relation to the surrounding culture. *3 sem. hrs.*
- ANT 406. CULTURAL CHANGE: The process of social changes in the modern world; culture lag and conflict of norms; individual and social problems arising from conflicting systems of values and norms. Prerequisite: ANT 150 or permission of instructor. *3 sem. hrs.*

ANT 449. ANTHROPOLOGICAL FIELD WORK: Formulation and carrying out of a research design in archaeology, physical anthropology, linguistics, or cultural anthropology. Prerequisite: Consent of instructor. *1-6 sem. hrs.*

ANT 498. INDEPENDENT STUDY: Research problems or readings of special interest investigated under the guidance of an anthropology staff member. Permission of the chairperson. *1-6 sem. hrs.*

*General education course. See Chapter V.



BIO

BIOLOGY (BIO)

PROGRAM S1: BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY (BIO)¹

	<i>Semester Hours</i>
Biology (including at least 24 sem. hrs. at 300-400 level)	41
Core courses: BIO 151, 152, 152L, 201L, 299, 412, 420	13
Environmental/Ecological—Select two ² : BIO 301, 314-314L, 320-320L, 330-330L, 402-402L, 430-430L, 435-435L, 441, 444-444L, 450-450L, 452-452L, 461-461L	7
Basic Biomedical—Select two ³ : BIO 309-309L, 403-403L, 404, 411-411L, 412L ⁴ , 425-425L, 440-440L, 442-442L, 462, 464-464L, 466-466L	7
Electives: Four courses, two with accompanying laboratories, from above groups. ⁵	14
Supporting sciences	30-31
CHM 123, 123L, 124, 124L, 313, 313L, 314, 314L	16
MTH 148-149 or 116, 148 (by placement)	6-7
PHY 201, 201L, 202, 202L	8
Communication skills	3-12
CMM 101	0-3
ENG 101,102 or 114 or 198	0-6
Select one: ENG 272, 316, 370, 378	3
Philosophy and religious studies	12
Humanities	12
Arts study	3
HST 101 or 102; 340 or 341	6
Elective	3
Social and behavioral sciences	12
First-year experience:	
ASI 150	0-1
General electives to total	120-121

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²One with accompanying laboratory. BIO 430 strongly recommended as one of two courses.

³One with accompanying laboratory. BIO 462 strongly recommended as one of two courses.

⁴Qualifies only as a laboratory elective (see below)

⁵Non-BIO science courses may be included with approval.

CURRICULUM DESCRIPTION FOR BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY

The Bachelor of Science program in biology is designed to prepare a student for a career in the life sciences. Graduates of the program are competitive for entry into graduate programs in biology as well as professional schools, such as medical, dental, osteopathic, and veterinary.

The department has two primary areas of faculty interest: environmental/ ecological science and basic biomedical science. The former includes ecology, population biology, ecological physiology, animal behavior, environmental microbiology, community and restoration ecology, evolutionary biology, and plant physiology, as well as environmental biology in the narrow sense. The biomedical science course offerings include molecular biology, cell biology, general and medical microbiology, immunology, genetics, mammalian physiology, and developmental biology. In addition, advanced undergraduates may enroll in graduate courses for undergraduate credit with the consent of the chairperson.

In line with the two areas of research interests, the department encourages students (in consultation with their advisors) to declare one of the two as an area of concentration of study no later than the end of the sophomore year. For the student more interested in a broad approach to biology, the department recommends a third option, the general biology option (any combination of upper-level biology courses that fulfills the program requirements).

The department offers a research mentorship program for upper-level students majoring in biology. The program allows a student to work closely with both faculty and graduate students in laboratory and/or field research. Participation in the program is based on the recommendation of a member of the faculty. The mentorship program is designed to provide a significant advantage for those students who intend to enter a graduate program.

The department also offers a combined Bachelor and Master of Science degree in Biology. This accelerated program is designed for students who display strong potential for research in biology. It provides a liberal arts education, a broad background in biology, the development of expertise in a biological subfield, and a thorough introduction to research instrumentation and techniques. Graduates from the program are prepared for either direct entry into the job market or continuation toward the Ph.D. A detailed description of the B.S.-M.S. program may be obtained from the departmental office.

FACULTY

John J. Rowe, *Chairperson*

Distinguished Service Professor: Noland

Professors: Bajpai, Burky, Geiger, McDougall, Rowe, Williams

Associate Professors: Breitwisch, Chantell, Kearns, Laufersweiler, Tsonis,

Vesper

Assistant Professors: Friese, Wright

Clinical Adjunct Associate Professors: Stull, Taylor

COURSES OF INSTRUCTION

*BIO 101. GENERAL BIOLOGY I: A study of the more important biological processes and principles through analysis and synthesis, dealing primarily with the organizational aspects of living things. This course (and BIO 102) is designed for students not following the biology core curriculum. 3 sem. hrs.

BIO 101L. GENERAL BIOLOGY LABORATORY I: Course to accompany BIO 101. One 2-hour laboratory each week stressing the investigational and experimental approach. 1 sem. hr.

*BIO 102. GENERAL BIOLOGY II: A continuation of BIO 101, stressing primarily the operational aspects of living matter. Prerequisite: BIO 101. 3 sem. hrs.

BIO 102L. GENERAL BIOLOGY LABORATORY II: Course to accompany BIO 102. One 2-hour laboratory each week. 1 sem. hr.

BIO 104. INTRODUCTORY BIOLOGY FIELD COURSE: An introduction to the ecology, behavior, morphology, taxonomy, and life history of plants and animals. One week on campus; three weeks in the Rocky Mountains near Denver, Colorado; one week of travel to and from the field site. For non-biological science majors only. Corequisites: GEO 104; BIO 104L or GEO 104L. Third term only. 3 sem. hrs.

BIO 104L. INTRODUCTORY BIOLOGY FIELD LABORATORY: Field trip laboratory in the biological sciences to accompany BIO 104. GEO 104L can be substituted for this course. Third term only. 1 sem. hr.

BIO 151. CONCEPTS OF BIOLOGY I: Study of the physico-chemical organization, the regulatory mechanisms, and the energy relations of living things. Core biology course (for majors in biology, medical technology, premedicine, etc.). 3 sem. hrs.

*BIO 152. CONCEPTS OF BIOLOGY II: Continuation of BIO 151. Homeostatic mechanism. Reproduction in organisms and its relationship with genes, growth and development, population concepts, environment, and evolution. Core biology course. 3 sem. hrs.

BIO 152L. BIOLOGY LABORATORY INVESTIGATIONS I: An introduction to biological laboratory procedures and instrumentation through a series of experimental exercises employing a wide variety of organisms. Core biology course. 1 sem. hr.

BIO 201L. BIOLOGY LABORATORY INVESTIGATIONS II: Specialized laboratory investigations at the organizational levels of cells, systems, and organisms. Emphasis on both plant and animal studies. Sophomore-level biology core course with special section for medical technology majors. 1 sem. hr.

BIO 299. BIOLOGY SEMINAR: Introduction to biological journals and abstracting materials. Practice in reviewing, abstracting, and presenting biological information. Primarily for sophomores. 1 sem. hr.

BIO 301. EVOLUTION: Theory and evidence of organic evolution, with emphasis on microevolutionary change and population genetics. Prerequisites: BIO 101-102 or 151-152; BIO 412 recommended. 3 sem. hrs.

BIO 309. COMPARATIVE ANATOMY OF THE VERTEBRATES: Study of changes that have occurred in the chordate body with the passage of time, and analysis of their significance. Prerequisite: Minimum of one year of introductory biology. 3 sem. hrs.

BIO 309L. COMPARATIVE ANATOMY LABORATORY: Course to accompany BIO 309 lecture. Dissection and study of representative vertebrate animals. Two 3-hour periods each week. 2 sem. hrs.

- BIO 314. PLANT BIOLOGY: Consideration of structure, function, reproduction, and inheritance as applicable in the plant patterns of life. Emphasis on the vascular plants. Minimum prerequisite: A course in biology. *3 sem. hrs.*
- BIO 314L. PLANT BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 314. Emphasis on generalized structure and function of plants. One 3-hour laboratory each week. *1 sem. hr.*
- BIO 320. MARINE BIOLOGY: Introduction to the diversity of marine life including the physical-chemical environment. Third term only. *2 sem. hrs.*
- BIO 320L. MARINE BIOLOGY LABORATORY: Examination of marine organisms and processes. Laboratory work conducted on UD campus and at off-campus field sites in the South. Third term only. *2 sem. hrs.*
- BIO 330. ANIMAL BEHAVIOR: An evolutionary approach to the study of animal behavior, emphasizing both proximate mechanisms and functional explanations of the survival value of behavior. Prerequisite: One year of biology. *3 sem. hrs.*
- BIO 330L. ANIMAL BEHAVIOR LABORATORY: Field and laboratory exercises to accompany BIO 330. Should be taken concurrently with BIO 330. One 3-hour laboratory each week and occasional Saturday field trips. *1 sem. hr.*
- BIO 350. APPLIED MICROBIOLOGY: Fundamentals of applied and environmental microbiology for environmental scientists and engineers. Introduction to microorganisms and their role in bioenvironmental engineering and industrial processes. For non-biological-science majors only. Prerequisites: Introductory biology; general and organic chemistry. *3 sem. hrs.*
- BIO 350L. APPLIED MICROBIOLOGY LABORATORY: An introductory laboratory to acquaint students with basic microbiology laboratory techniques as applied to environmental pollution and industrial fermentations. *1 sem. hr.*
- * BIO 390. PHYSIOLOGY OF SEX AND FERTILITY REGULATION: Introduction to the role of hormones, glands, organs, and devices in the regulation of sexual functions and fertility. No science credit for biological science majors. Prerequisite: Introductory biology. *3 sem. hrs.*
- * BIO 395. GLOBAL ENVIRONMENTAL BIOLOGY: Presentation of the biological and ecological principles needed for critical discussion and evaluation of current global environmental issues including food production, human population growth, role of humans and pollution in environmental degradation, and conservation of agricultural, forest and other natural resources. No science credit for biology majors. Prerequisites: An introductory course in the natural sciences. *3 sem. hrs.*
- * BIO 398. HEREDITY AND SOCIETY: Survey of the fundamental principles of inheritance and the application of genetics to contemporary problems of society. No science credit for biological science majors. Prerequisite: Introductory biology. *3 sem. hrs.*
- BIO 402. VERTEBRATE ZOOLOGY: The morphology, physiology, ecology, and distribution of representative vertebrate groups. Prerequisite: Junior-senior standing. *3 sem. hrs.*

- BIO 402L. VERTEBRATE ZOOLOGY LABORATORY: Course to accompany BIO 402. *1 sem. hr.*
- BIO 403. PHYSIOLOGY I: A physico-chemical examination of the physiological events occurring in a living system with emphasis on physiology of the cell, excretion, nerves, muscles, bone, blood, heart, circulation, and respiration. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*
- BIO 403L. PHYSIOLOGY I LABORATORY: Course to accompany BIO 403. Systematic approach to the acquisition and interpretation of information about the physiology of living systems. *1 sem. hr.*
- BIO 404. PHYSIOLOGY II: Study of the gastrointestinal physiology, hormonal regulation of metabolism, and growth and reproduction of higher vertebrates, including primates. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*
- BIO 411. GENERAL MICROBIOLOGY: Introductory course stressing the physiology, cultivation, and classification of microbial organisms; their role in medicine, agriculture, and industry. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*
- BIO 411L. GENERAL MICROBIOLOGY LABORATORY: Course to accompany BIO 411. Two 2-hour periods each week. *1 sem. hr.*
- * BIO 412. GENERAL GENETICS: Study of the principles of variation and heredity covering both Mendelian and molecular genetics. Core biology course. *3 sem. hrs.*
- BIO 412L. GENETICS LABORATORY: Laboratory exercises to accompany BIO 412. May be taken concurrently with or following the lecture course. *1 sem. hr.*
- BIO 420. SEMINAR: Practice in development, presentation, and discussion of papers dealing with biological research problems. Prerequisite: Junior or senior standing. *1 sem. hr.*
- BIO 421. BIOLOGICAL PROBLEMS: Laboratory research problems. Topics arranged with faculty advisors. Prerequisite: Chairperson's permission. *1-2 sem. hrs.*
- BIO 422. BIOLOGICAL PROBLEMS: Library research problems. Topics arranged with faculty advisors. Prerequisite: Chairperson's permission. *1-2 sem. hrs.*
- BIO 425. PARASITOLOGY: Introduction to the morphology, life history, and clinical significance of parasites and other symbionts. Prerequisites: BIO 101-102 or 151-152. *3 sem. hrs.*
- BIO 425L. PARASITOLOGY LABORATORY: Course to accompany BIO 425. Recognition of common human parasites. Study of both living and preserved forms. One 3-hour period each week. *1 sem. hr.*
- BIO 430. ECOLOGY: Interrelationship of plants, animals, and microorganisms with the physical-chemical environment: nutrient cycles, energy flow, ecosystems, and factors affecting distribution and abundance of organisms. Prerequisite: One year of biology. *3 sem. hrs.*

BIO 430L. ECOLOGY LABORATORY: Field and laboratory exercises to accompany BIO 430. May be taken concurrently with or following BIO 430. 1 sem. hr.

BIO 435. MICROBIAL ECOLOGY: Study of the diversity and activity of microorganisms and the interrelationships between microorganisms and their environments with emphasis on aquatic ecosystems. Prerequisites: BIO 411; CHM 313-314. 3 sem. hrs.

BIO 435L. MICROBIAL ECOLOGY LABORATORY: Examination of the methods of isolation and enumeration of microorganisms and techniques for determining their activities in the field and laboratory. 1 sem. hr.

BIO 440. CELL BIOLOGY: Function, structure, composition, heredity, and growth of cells. Analysis of cell concept in biochemical terms. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. 3 sem. hrs.

BIO 440L. CELL BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 440. May be taken concurrently with or following BIO 440. 1 sem. hr.

BIO 441. PLANT PHYSIOLOGY: Current concepts concerning the physiology of higher plants. Topics include uptake and transfer of materials, metabolism, and regulation of growth and reproduction. Prerequisite: Junior or senior standing. 3 sem. hrs.

BIO 442. DEVELOPMENTAL BIOLOGY: Study of animal development, including morphological patterns of development, mechanisms of cellular differentiation, cell-cell interactions during development, and mechanisms of differential gene expression. Emphasis on understanding development at the cellular and molecular levels. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. 3 sem. hrs.

BIO 442L. DEVELOPMENTAL BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 442. May be taken concurrently with or following BIO 442. 1 sem. hr.

BIO 444. PLANT DIVERSITY: Broad survey of the major divisions of the plant kingdom; consideration of algae, fungi, bryophytes, vascular plant groups; their generalized life histories, ecological and physiological characteristics, evolutionary relationships. 3 sem. hrs.

BIO 444L. PLANT DIVERSITY LABORATORY: Laboratory studies of the plant groups, including life cycles and evolutionary, physiological, and ecological adaptations. One 3-hour laboratory each week. 1 sem. hr.

BIO 450. COMPARATIVE ANIMAL PHYSIOLOGY: Organized on a function-system basis, course dealing with environment-organism interaction and with integrative systems of the principal phyla of animals. 3 sem. hrs.

BIO 450L. COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY: Laboratory to accompany BIO 450. Must be taken concurrently with BIO 450. 1 sem. hr.

BIO 452. AQUATIC BIOLOGY: The interrelationship of organisms and stream and lake ecosystems, including nutrient cycles, oceanic and lake current development, chemical limnology, adaptation to the aquatic environment, and pollution ecology. 3 sem. hrs.

BIO 452L. AQUATIC BIOLOGY LABORATORY: Laboratory and field exercises emphasizing chemical and physical limnology, evolution of aquatic ecosystems, and pollution ecology. One laboratory or field trip each week. *1 sem. hr.*

BIO 461. INVERTEBRATE ZOOLOGY: Survey of the structure, activities, life histories, and relationships of the invertebrate animals, with some emphasis on their origin and development. Prerequisites: BIO 101-102 or 151-152. *3 sem. hrs.*

BIO 461L. INVERTEBRATE ZOOLOGICAL LABORATORY: Course to accompany BIO 461. One 3-hour laboratory each week. *1 sem. hr.*

BIO 462. MOLECULAR BIOLOGY: Analysis of the nature of the gene and gene action. Particular attention to genetic regulation and to recent advances in molecular genetics. Prerequisites: BIO 412, CHM 314. *3 sem. hrs.*

BIO 464. PATHOPHYSIOLOGY: The role of physiological stress in human physiology and its relation to the disease process. Attention to stress assessment through critical interpretation of clinical laboratory data. Prerequisites: Junior or senior standing; BIO 403. *3 sem. hrs.*

BIO 464L. PATHOPHYSIOLOGY LABORATORY: Course to accompany BIO 464. *1 sem. hr.*

BIO 466. BIOLOGY OF INFECTIOUS DISEASE: The nature of infectious diseases, host-parasite relationships in resistance and infection, defense mechanism (antigen-antibody response); survey of the bacteria causing disease in humans. Prerequisite: BIO 411. *3 sem. hrs.*

BIO 466L. BIOLOGY OF INFECTIOUS DISEASE LABORATORY: Laboratory experiments to demonstrate immunological, serological, determinative, and medical bacteriology. Two 2-hour laboratory periods each week. *1 sem. hr.*

*General education course. See Chapter V.

CHEMISTRY (CHM)

The B.A. program in chemistry provides a framework of scientific courses which serves as a preparation for a number of interdisciplinary professions. The traditional B.S. curriculum has been modified in the B.A. program, most notably in mathematics, physics, and advanced chemistry. The program is sufficiently flexible to afford a wide selection of courses in the humanities. Science courses may be chosen to provide a preparation for professions such as medicine, dentistry, optometry, veterinary medicine, biochemistry, education, and law, as well as for employment in many other areas which require a background in science.

The B.S. program in biochemistry follows a curriculum which satisfies the needs of students who anticipate careers in the life sciences. A mark of distinction and rigor is that each student is required to conduct research, which normally includes a ten-week summer period following the junior year and culminates with the submission of a research thesis and the presentation of a seminar.

The B.S. program in chemistry is approved by the American Chemical Society for the training of professional chemists. Qualified students may participate in cooperative education following the completion of the sophomore year. Each student in the B.S. program in chemistry is required to conduct an original research project. Satisfaction of this requirement normally begins with enrollment in CHM 495 and selection of a research professor and project during the second term of the junior year. The research project, conducted during the entire senior year, normally requires two work periods of 3 to 4 hours each a week. The project culminates in the final term of the senior year with enrollment in CHM 498, the submission of an acceptable thesis, and the presentation of a seminar in CHM 497. Additional research work to a maximum total of 6 semester hours may be elected provided that the work extends beyond two semesters. Cooperative education students substitute work experience for research.

**PROGRAM A2: BACHELOR OF ARTS WITH A MAJOR IN
CHEMISTRY (CHA)¹**

<i>Summary of Requirements²</i>	<i>Semester Hours</i>
Chemistry	37
Required courses	
Year 1: CHM 123, 123L, 124, 124L	8
Year 2: CHM 201, 201L, 313, 313L, 314, 314L	12
Year 3: CHM 302 or 303-304	3-6
Year 4: CHM 496	1
Chemistry electives	
Choose from the following: CHM 317, 404, 412, 415, 417, 418L, 420, 427, 451, 452, 490L, 498, 499	10-13
(May substitute two upper-level courses from other science departments with permission of chairperson.)	
Supporting science requirements (Complete during first two years.)	
MTH 148, 149, 367, or 168, 169	8-9
PHY 201, 201L, 202, 202L	8
Communication skills	3-9
CMM 101	0-3
ENG 101-102 or 114 or 198 ³	3-6
Philosophy and religious studies	12

Social and behavioral sciences	12
Humanities	18
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²Advanced placement is permitted.

³If composition requirement is waived, student should select an ENG elective.

PROGRAM S2: BACHELOR OF SCIENCE WITH A MAJOR IN BIOCHEMISTRY (BCM)¹

<i>Summary of Requirements²</i>	<i>Semester Hours</i>
Chemistry requirements	39
Year 1: CHM 123, 123L, 124, 124L	8
Year 2: CHM 201, 201L, 313, 313L, 314, 314L	12
Year 3: CHM 303, 303L, 304, 451, 452, 462L ³ , 495, 498	17
Year 4: CHM 496, 497	2
Biology requirements	11
Year 1: BIO 151, 152, 152L	7
Year 2: BIO elective and laboratory	4
Science breadth requirements	10
Choose from the following: CHM 404, 415, 415L, 417, 418L, 427, 499; BIO 314, 403, 404, 411, 412, 427, 440, 462	
Supporting science requirements	
MTH 168, 169, 218; CPS 132	15
PHY 206, 207, 210L	7
Communication skills	3-9
CMM 101	0-3
ENG 101-102 or 114 or 198 ⁴	3-6
Foreign language	6-8
Philosophy and religious studies	12
Social and behavioral sciences	6
Humanities	9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total	120-127

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education requirements.

²Advanced placement is permitted.

³Students who take CHM 499 are not required to enroll in CHM 462L.

⁴If composition requirement is waived, student should select an ENG elective.

PROGRAM S3: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMISTRY (CHM)¹

<i>Summary of Requirements²</i>	<i>Semester Hours</i>
Chemistry	48
Year 1: CHM 123, 123L, 124, 124L	8
Year 2: CHM 201, 201L, 313, 313L, 314, 314L	12
Year 3: CHM 303, 303L, 304, 304L, 317, 417, 418L, 495	13
Year 4: CHM 415, 415L, 496, 497, 498	9

Chemistry electives	
Choose from the following: CHM 404, 412, 420, 427, 451, 452, 490L, 499 6 (May substitute one approved science course from another department.)	
Supporting science requirements (Complete during first two years.)	
MTH 168, 169, 218; CPS 132	15
PHY 206, 207, 208, 210L, 211L	11
Communication skills	3-9
CMM 101	0-3
ENG 101-102 or 114 or 198 ³	3-6
Foreign language	6-8
Philosophy and religious studies	12
Social and behavioral sciences	6
Humanities	9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹Consult General Requirements for all Bachelor of Science Programs and Chapter V for General Education Requirements.

²Advanced placement is permitted.

³If composition requirement is waived, student should select an ENG elective.

FACULTY

Albert V. Fratini, *Chairperson*

Distinguished Service Professor: Lucier

Professor Emeritus: Michaelis

Professors: Fox, Fratini, R. Keil, Knachel, Singer

Associate Professors: Johnson, Morrow

Assistant Professors: Church, Glass, Hunnicutt

Laboratory Instructors: Hils, Jeffery, P. Keil, Nelson, Schwendeman, Tabesh, Webb

COURSES OF INSTRUCTION

- * CHM 115. COLLEGE PREPARATORY CHEMISTRY: A one-term course for students desiring to enter a science or engineering program but whose background is insufficient for CHM 123-124. Unacceptable for credit toward chemistry requirements in any chemistry program. 3 sem. hrs.
- CHM 115L. COLLEGE PREPARATORY CHEMISTRY LABORATORY: Course to accompany CHM 115 or to be elected by students in CHM 200 who lack previous chemistry laboratory experience. One 3-hour laboratory each week. 1 sem. hr.
- * CHM 123-124. GENERAL CHEMISTRY: Comprehensive treatment of the fundamentals of general chemistry. Prerequisite: Competence in high school chemistry or successful completion of CHM 115. A placement examination is available for students whose background is doubtful. CHM 123 is a prerequisite for CHM 124. 3 sem. hrs. each
- CHM 123L-124L. GENERAL CHEMISTRY LABORATORY: Laboratory course to complement CHM 123-124. One 3-hour laboratory session each week. CHM 123 is a corequisite for CHM 123L. CHM 124 is a corequisite for CHM 124L. 1 sem. hr. each
- * CHM 200. CHEMISTRY AND SOCIETY: A course for nonscience majors. The application of chemical principles to the examination of issues such as environmental quality, disease, hunger, synthetic materials, and law enforcement. Requires one year of high school chemistry or equivalent. Depending upon background and experience, a student needing a laboratory course may enroll in either CHM 115L or CHM 123L. 3 sem. hrs.

CHM 201. QUANTITATIVE ANALYSIS: Application of the principles of chemical equilibrium to the theory and techniques of gravimetric, volumetric, spectrophotometric, and electroanalytical methods of chemical analysis. Prerequisites: CHM 124, 124L. *3 sem. hrs.*

CHM 201L. QUANTITATIVE ANALYSIS LABORATORY: Course to accompany CHM 201 lecture. One 3-hour laboratory period each week. *1 sem. hr.*

CHM 302. PHYSICAL CHEMISTRY: Essential elements of thermodynamics, chemical kinetics, equilibria, and electrochemistry for those with a primary interest in the life sciences. For B.A. chemistry majors and premedical, pre dental, and biology majors. Prerequisite: CHM 124. *3 sem. hrs.*

CHM 303-304. PHYSICAL CHEMISTRY: Fundamentals of thermodynamics, chemical kinetics, electrochemistry, and spectroscopy with a mathematics format. For B.S. chemistry majors and chemical engineers. Prerequisites: CHM 201 or equivalent, CHM 303. Corequisite: MTH 218. *3 sem. hrs. each*

CHM 303L-304L. PHYSICAL CHEMISTRY LABORATORY: Course to accompany CHM 303-304. One 3-hour laboratory each week. Corequisite: MTH 218. *1 sem. hr. each*

CHM 313-314. ORGANIC CHEMISTRY: Major topics in organic chemistry including synthesis, mechanisms, stereochemistry, and spectroscopy. Required of all chemistry majors and students in the life sciences. Prerequisite: CHM 124. CHM 313 is a prerequisite for CHM 314. *3 sem. hrs. each*

CHM 313L-314L. ORGANIC CHEMISTRY LABORATORY: Common separation, purification, and analytical techniques including chromatography and spectroscopy are stressed in CHM 313L. Synthesis and characterization of organic materials utilizing skills from the first term are stressed in CHM 314L. One 3-hour laboratory each week. Corequisites: CHM 313 and 314, respectively. CHM 313L is a prerequisite for CHM 314L. *1 sem. hr. each*

CHM 317. SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS: The use of nuclear magnetic resonance, infrared, and mass spectrometry in elucidating structures. Emphasis on interpretation and integration of spectral data in problem solving. Prerequisites: CHM 314, 314L or equivalent. *1 sem. hr.*

CHM 404. SPECIAL TOPICS IN PHYSICAL CHEMISTRY: Thorough treatment of topics such as electrochemistry, macromolecules, photochemistry, or spectroscopy. Prerequisite: CHM 302 or 303. May be repeated as topics change. *3 sem. hrs.*

CHM 412. INTERMEDIATE ORGANIC CHEMISTRY: Modern theory and practice of organic chemistry. May include structure-reactivity relationships, reaction mechanism, and synthetic topics not normally treated in introductory courses. Prerequisites: CHM 302 or equivalent, CHM 313-314, and senior standing. *3 sem. hrs.*

CHM 415. ANALYTICAL CHEMISTRY: Chemical analysis based on modern instrumentation. Chromatographic, electrochemical, and spectroscopic methods. Prerequisites: CHM 201, 201L, 302 or 304. *2 sem. hrs.*

CHM 415L. ANALYTICAL CHEMISTRY LABORATORY: Course to accompany CHM 415. Two 3-hour laboratory sessions each week. Prerequisites: CHM 201L, 302 or equivalent. *2 sem. hrs.*

CHM 417. INORGANIC CHEMISTRY: An advanced course in modern inorganic chemistry. Atomic structure, principles of bonding and structure, acid-base chemistry, periodicity, coordination compounds, nonaqueous solvents, electrochemistry, molecular symmetry, organometallic compounds, and the chemistry of selected representative elements. Prerequisites: CHM 124, 314. Corequisite: CHM 302 or 304. *3 sem. hrs.*

CHM 418L. INORGANIC CHEMISTRY LABORATORY: Laboratory course dealing with the synthesis and characterization of inorganic and organometallic compounds. Topics include vacuum and inert atmosphere techniques, separation and purification, spectroscopic characterization, X-ray diffraction, magnetic moment, and conductance measurements. Prerequisites: CHM 201L, 316L. Corequisite: CHM 417. 1 sem. hr.

CHM 420. BIOCHEMISTRY: The fundamental aspects of the chemistry and biochemistry of carbohydrates, lipids, proteins, and nucleic acids. Enzymology, protein purification, bioenergetics, metabolism of carbohydrates, lipids, amino acids, nucleotides and nucleic acids, elementary molecular biology, and control processes are described. Suitable preparation for medical school; recommended for nonchemistry majors. Prerequisite: CHM 314. 3 sem. hrs.

CHM 427. MEDICINAL CHEMISTRY: The chemical mechanisms of action of the major drug classes will be surveyed with particular emphasis on the facets of organic chemistry that control drug-receptor interactions, metabolism and mechanisms of toxicity and resistance. Prerequisites: CHM 314 and CHM 420 or CHM 451. First term. 3 sem. hrs.

CHM 451. GENERAL BIOCHEMISTRY I: Discussion of the chemistry and biochemistry of carbohydrates, amino acids, proteins, and nucleic acids, including health-science and methodologic aspects. Descriptions of enzymology, protein purification, and carbohydrate metabolism related to such topics as bioenergetics, membranes, and disease processes. Prerequisites: CHM 201, 314. 3 sem. hrs.

CHM 452. GENERAL BIOCHEMISTRY II: Discussion of selected topics in bioenergetics, and metabolism of lipids, amino acids, porphyrins, nucleic acids, and proteins. Current aspects of nutrition, biochemical genetics, endocrinology, regulation, and genetic engineering addressed and related to health-science topics as time permits. Suitable preparation for medical school. Prerequisite: CHM 451. 3 sem. hrs.

CHM 462L. BIOCHEMISTRY LABORATORY: Laboratory course to accompany biochemistry lecture courses. Spectrophotometry, pH and dissociation, enzymologic methodology and analytical techniques, chromatographic techniques. Corequisite: CHM 420 or 451. 1 sem. hr.

CHM 490L. SCIENTIFIC GLASSBLOWING: Theory and practice of glass working. Under the supervision of a professional glassblower, students learn to make several standard seals and fabricate pieces of glass apparatus. Enrollment limited. One 3-hour laboratory each week. Prerequisite: Permission of the chairperson. Grading Option 2. 1 sem. hr.

CHM 495. INTRODUCTION TO RESEARCH SEMINAR: Research topics presented by visiting scientists and faculty, and the results of thesis research by senior students. Required of all junior chemistry majors in the B.S. program. Grading Option 2. No credit

* CHM 496. PROFESSIONAL PRACTICES SEMINAR: After discussions of the chemical literature and information retrieval, resumes, graduate education, and career opportunities, students present technical talks on topics with social, ethical, or historical implications. Required of all chemistry majors, both B.S. and B.A. 1 sem. hr.

CHM 497. RESEARCH SEMINAR: A series of seminars as described under CHM 495. Required of all senior chemistry majors in the B.S. program. 1 sem. hr.

CHM 498-499. RESEARCH AND THESIS: All students in the B.S. program (except Cop) are required to enroll for a minimum of 3 semester hours in a research course (CHM 498). Students may take additional research credits (CHM 499) if the work extends for more than 2 semesters. Successful completion of research courses requires the submission of a typewritten thesis and the presentation of a seminar. Prerequisite: Permission of the chairperson. 3-6 sem. hrs.

*General education course. See Chapter V.

CLA

CLASSICS (CLA)

Courses in classics, taught in English, are offered by the Department of Languages. See LNG. See also HMS.

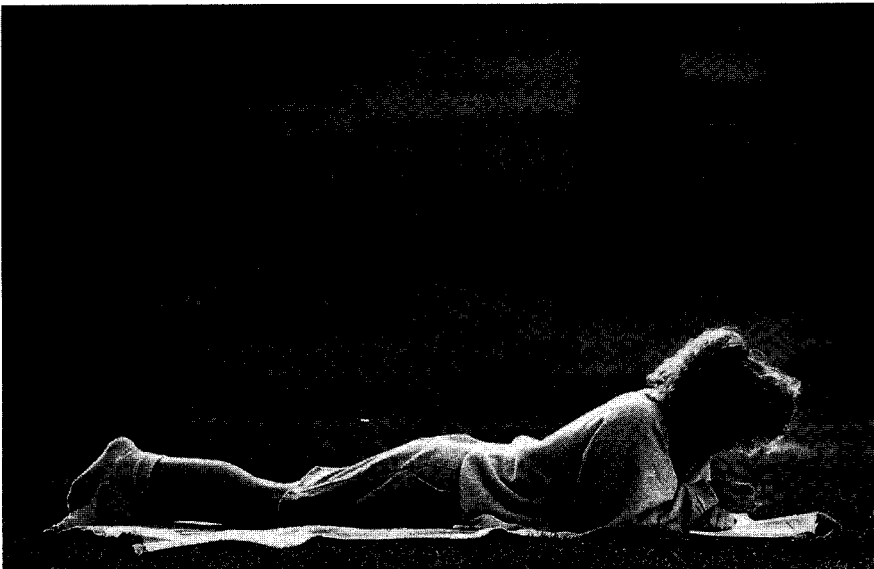
COURSES OF INSTRUCTION

CLA 105. CLASSICAL ELEMENTS IN THE ENGLISH LANGUAGE: A study of Greek and Latin elements in bioscientific terminology to improve comprehension of derivatives from the classical languages in both specialized writings and traditional literature. *3 sem. hrs.*

CLA 203. CLASSICAL MYTHOLOGY: An introduction to the principal cycles of Greek and Roman mythology, with emphasis on the influence of classical mythology upon the literature and art of the Western world. No prerequisite. *3 sem. hrs.*

CLA 205. INTRODUCTION TO GREEK ARCHAEOLOGY: Survey of Greek archaeology from the Neolithic to the Classical Age, including consideration of the theory and technique of archaeological investigation. Emphasis on the culture of the Minoan Bronze Age, the Mycenaean Bronze Age, and the Classical Age. *3 sem. hrs.*

CLA 350. CLASSICAL LITERATURE IN TRANSLATION: Course to acquaint students not majoring or minoring in classical languages with Latin and Greek authors and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*



COMMUNICATION (CMM)

The course requirements for communication majors are 36 semester hours. Teacher certification through the E11 program is an option for communication majors. Consult department chairperson for details.

Minors in communication must have CMM 101 and 12 semester hours of upper-level courses selected through consultation with the department chairperson.

A minor in political journalism is available for political science majors. The political journalism minor consists of CMM 201, CMM 330, and four of the following five courses: CMM 331; CMM 353; CMM 431; CMM 432; CMM 450.

The department also offers a Bachelor of Arts with a major in theatre. See THR.

**PROGRAM A3: BACHELOR OF ARTS WITH A MAJOR
IN COMMUNICATION¹**

	<i>Semester Hours</i>
English 101-102 or ENG 114 or ENG 198	3-6
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Philosophy and religious studies	12
Major program ²	36
Foundation (required of all CMM majors)	9
CMM 101; CMM 201; CMM 202	
Concentration Requirements and Electives	27
CONCENTRATIONS	
General Communication (CMM)	
Foundation	9
Required (3 credit hours from each of the other five concentrations)	15
Any courses in CMM or THR	12
Communication Management (CMT)	
Foundation	9
CMM 320; CMM 321; CMM 412; CMM 421	12
Two courses from the following:	
CMM 351; CMM 352; CMM 420; CMM 322; CMM 498	6
Any courses in CMM or THR	9
Journalism (JRN)	
Foundation	9
CMM 330; CMM 430; CMM 431; CMM 432	12
Two courses from the following:	
CMM 331; CMM 332; CMM 412; CMM 416; CMM 498	6
Any courses in CMM or THR	9
Public Relations (PUB)	
Foundation	9
CMM 360; CMM 412; CMM 460; CMM 461	12
Two courses from the following:	
CMM 332; CMM 351; CMM 421; CMM 469; CMM 498	6
Any courses in CMM or THR	9

Electronic Media (RTV)	
Foundation	9
CMM 340; CMM 341 or CMM 342; CMM 343; CMM 446	12
Two courses from the following:	
CMM 412; CMM 449; CMM 442; CMM 498	6
Any courses in CMM or THR	9
Theatre (CTR)	
Foundation	9
THR 203; THR 310; THR 340; THR 415	12
Two courses from the following:	
THR 305; THR 307; THR 323; THR 325; THR 326; THR 330; THR 424	6
Any courses in CMM or THR	9
Two units of 12 sem. hrs. each selected from anthropology, economics, political science, psychology, sociology, management, criminal justice, social work, education, marketing, military science, human ecology, social work, ASI. (At least 6 sem. hrs. in each unit must be 300-400 level.)	24
Anthropology, economics, political science, psychology, sociology if none of these is chosen as one of the 12 sem. hr. units above	6
Two units of 9 sem. hrs. each selected from English, languages, history, music, philosophy, religious studies, visual arts. (In English, philosophy, and religious studies, at least 6 sem. hrs. must be 300-400 level.)	18
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²At least 24 of the required 36 sem. hrs. in all communication concentrations must be 300-400 level.

FACULTY

Thomas D. Skill, *Chairperson*

Professor Emerita: Wolff

Professors: Cusella, Gilvary, Morlan, Rang, Thompson

Associate Professors: Blatt, Harwood, Lain, Robinson, Skill, Wallace, Yoder

Assistant Professors: Anderson, Griffin, Selka, Taylor, Watters, Watts, Weatherly, Zerbinos

Lecturers: Angel, Hueth

COURSES OF INSTRUCTION

CMM 101. FUNDAMENTALS OF ORAL COMMUNICATION: Introductory course in the fundamental skills of oral communication. Development of communicative self-confidence through interpersonal and small group process, persuasive reasoning, listening theory and practice, and public speaking. 3 sem. hrs.

CMM 201. FOUNDATIONS OF MASS COMMUNICATION: Historical development of mass media in America; survey of mass media theories, impact of mass media on people and society, the role and influence of the news media, new technologies, programming, and pressure groups. 3 sem. hrs.

CMM 202. FOUNDATIONS OF COMMUNICATION THEORIES AND RESEARCH: Study of the nature and scope of communication theories and research. Examination of how the communication discipline developed from classical traditions to its modern perspective. *3 sem. hrs.*

CMM 310. VOICE AND DICTION: The four phases of speech production: proper breathing, phonation, resonance, and articulation. Emphasis on projection, quality and clarity of speech. Analysis of students' voices through tape recordings. *3 sem. hrs.*

CMM 311. STUDIES IN ORAL PERFORMANCE: Oral performance of poetry, prose, and drama; combining study of vocal modulations, pitch, inflection, and tone color with intellectual and emotional analysis of selections as a means of making the literature alive and immediately present. *3 sem. hrs.*

CMM 312. LISTENING THEORY AND APPLICATION: Study of theories and related application during comprehensive, discriminate, empathic, and appreciative listening; emphasis on listening competently and responsibly. *3 sem. hrs.*

CMM 313. NONVERBAL COMMUNICATION: Survey of theory and research, and experiential learning in nonverbal communication. Examination of the influence of environmental factors, physical behavior, and vocal cues on human communication. *3 sem. hrs.*

CMM 320. INTERPERSONAL COMMUNICATION: Study of the student's own communication behavior through face-to-face spontaneous interaction with others. *3 sem. hrs.*

CMM 321. SMALL GROUP COMMUNICATION: Guiding principles used by participants and leaders in preparing and conducting small group conferences and discussions; policy-making conferences staged. *3 sem. hrs.*

CMM 322. INTERVIEWING FOR COMMUNICATION AND BUSINESS: Analysis of communication in structured dyadic interaction. Emphasis on the following types of interviews: information-gathering, employment, appraisal, and persuasive. Application through role-playing and feedback systems. *3 sem. hrs.*

CMM 330. NEWSWRITING: Writing for the news media, concentrating on determining news values, developing newsgathering and newswriting techniques, and improving writing skills. Prerequisites: CMM 201, typing skills. Studio fee. *3 sem. hrs.*

CMM 331. INTERPRETATIVE AND FEATURE WRITING: Writing non-news materials: features, personality stories, columns, reviews, consumer information. New journalism. Contents and organization of feature sections. Studio fee. *3 sem. hrs.*

CMM 332. PUBLICATION DESIGN: Layout and design of newspapers, newsletters, brochures, and magazines. Type selection, copy preparation, cost appraisal, printing methods. Studio fee. *3 sem. hrs.*

CMM 333. FREE-LANCE WRITING: Steps of free-lance publication, from market analysis to query letters to writing and rewriting. Mostly nonfiction, magazine markets, some newspaper and nonfiction book markets. *3 sem. hrs.*

CMM 340. FUNDAMENTALS OF BROADCASTING: Lectures dealing with broadcasting as a business and as a cultural influence; broadcast regulation, programming, and organization of typical radio and television stations. 3 sem. hrs.

CMM 341. AUDIO PRODUCTION: Study of the theory and process of current audio production practices, including the operation of basic studio equipment. Exercises in methods of sound reproduction in the audio studio, including recording of voice music, and sound effects. Some writing for the aural medium. Prerequisite: CMM 340. Studio fee. 3 sem. hrs.

CMM 342. FUNDAMENTALS OF TELEVISION PRODUCTION. Intensive practice in preparation and production of studio-based television programs. Process and fundamentals of studio production and post-production editing. Studio fee. 3 sem. hrs.

CMM 343. WRITING FOR ELECTRONIC MEDIA: Study of concrete approaches to and practice with the kinds of writing being done professionally in all program types on television and radio. Prerequisite: CMM 340. 3 sem. hrs.

CMM 350. PROPAGANDA ANALYSIS: Use and abuse of propaganda. Editorial persuasion. Propaganda devices and techniques. An application of the principles of Aristotelean logic to the field of communication. 3 sem. hrs.

CMM 351. PUBLIC SPEAKING: Oral communication in professional situations. Adaptation of principles of effective speaking to specific audiences and occasions. Delivery of informational, problem-solving, and special-occasion speeches. 3 sem. hrs.

CMM 352. PERSUASION: Analysis of the motivations that lead to belief and action of individuals and audiences. Study in the techniques of persuasion. Practical application of theory. 3 sem. hrs.

CMM 353. SPEECH WRITING: Study of speech structure and composition. Critical analysis of model speeches, in conjunction with the preparation and presentation of original speeches on current public questions. 3 sem. hrs.

CMM 360. PRINCIPLES OF PUBLIC RELATIONS: Survey of the field of public relations emphasizing writing and public relations, theoretical implications of the field, the practitioner's role in organization and the community. 3 sem. hrs.

CMM 390. INDEPENDENT STUDY: Supervised study involving directed readings, individual research (library, field, or experimental), or projects in the specialized areas of communication. May be repeated once. Prerequisite: Permission of the department chairperson. 3 sem. hrs.

CMM 397. COMMUNICATION PRACTICUM: Contracted participation in an approved communication organization. One sem. hr. per term to a maximum of 6. (Only 3 sem. hrs. may be applied to communication major). Grade option 2 only. 1-6 sem. hrs.

CMM 410. FAMILY COMMUNICATION: Study of the family from a communication perspective, considering the communication processes within the family and the extent to which communication affects and is affected by the family. 3 sem. hrs.

- CMM 411. HEALTH COMMUNICATION: Examination of communication theory and research as they relate to health care. Issues include reassurance, the role of the patient, interviews, health organizations, the media and health, compliance, providing explanations, and health care professions frequently neglected. 3 sem. hrs.
- CMM 412. RESEARCH METHODS IN COMMUNICATION: Introduction to data gathering and analytical quantitative methods used in the communication discipline. Focus on and practice in survey methods, questionnaire development, and sampling. 3 sem. hrs.
- CMM 413. COMMUNICATION IN THE INFORMATION AGE: Examination of issues related to development, economics, programming, and the future of new mass communication technologies. Prerequisite: CMM 340. 3 sem. hrs.
- CMM 414. GLOBAL COMMUNICATION: Introduction to the main topics in the field of global communication. Emphasis on comparative mass media and current issues in global communication. 3 sem. hrs.
- CMM 415. WOMEN AND COMMUNICATION: Seminar focusing on gender differences in communication, unique aspects to women's communication, and women's rhetoric. Current theory and research examined. 3 sem. hrs.
- * CMM 416. DEVELOPMENT OF MASS MEDIA: History and analysis of the development and interdependence of mass media, print and electronic. Emphasis on its role in political and economic progress of U.S. and attendant responsibility. 3 sem. hrs.
- CMM 420. COMMUNICATION AND CONFLICT MANAGEMENT: Examination of the functions of communication in several types of conflict such as marital conflict, racial conflict, and role conflict, and the methods and strategies of communication to reduce these conflicts. 3 sem. hrs.
- CMM 421. COMMUNICATION IN ORGANIZATIONS: Analysis of message initiation, diffusion, and reception in organizations; study of various methodological approaches for the purpose of conducting a communication audit within an organization. 3 sem. hrs.
- CMM 430. EDITING AND COPYREADING: Newspaper copy editing, with emphasis on language usage, editing symbols, newspaper style, headline and caption writing. Extensive work on computerized editing system. Prerequisites: CMM 330. Typing skills. Studio fee. 3 sem. hrs.
- CMM 431. PUBLIC AFFAIRS REPORTING: Advanced reporting and newswriting. Analysis and structure of stories on all government areas. Information-gathering techniques and specialized reporting. Prerequisite: CMM 330. Typing skills. Studio fee. 3 sem. hrs.
- CMM 432. THE LAW AND NEWS MEDIA: Limitations of freedom of the press. The right of the people to know and news media to report, within the limits of decency, fair comment, and privacy. Censorship. Off-the-record material. Libel laws, copyright restrictions. Postal regulations. 3 sem. hrs.
- CMM 439. SPECIAL TOPICS IN JOURNALISM: Concentrated study in special areas of journalism. May be repeated with change of topic. 3 or 6 sem. hrs.

- CMM 440. BROADCAST NEWS: Study of the process and practice of news gathering, analysis, rewriting, and editing for the broadcast media. Theoretical background and practical application, including historical, legal, and ethical concerns for broadcast news personnel. Prerequisite: CMM 330. Studio fee. *3 sem. hrs.*
- CMM 441. BROADCAST COMMERCIAL COPYWRITING: Study and application of principles of the differences between the two media as they affect commercial copy requirements. Prerequisite: CMM 340. *3 sem. hrs.*
- CMM 442. ADVANCED TELEVISION PRODUCTION: Advanced techniques of both studio and electronic field production and post-production editing for television. Prerequisite: CMM 342. Studio fee. *3 sem. hrs.*
- CMM 446. ELECTRONIC MEDIA MANAGEMENT: Survey of the leadership/management roles and responsibilities of broadcasting, cable television and corporate media enterprises. Prerequisite: CMM 340. *3 sem. hrs.*
- CMM 449. TOPICS IN ELECTRONIC MEDIA: Concentrated study in special areas of electronic media production, criticism, and management. May be repeated once with change of topic. Depending on topic, prerequisites may be imposed. *3 sem. hrs.*
- CMM 450. POLITICAL CAMPAIGN COMMUNICATION: Analysis of the nature and functions of selected communication variables within political election campaigns. *3 sem. hrs.*
- CMM 451. RHETORIC OF SOCIAL MOVEMENTS: Examination of the rhetoric of contemporary advocates through application of the basic elements of argumentation and persuasion. *3 sem. hrs.*
- CMM 452. SURVEY OF RHETORICAL THEORY: Examination of the foundations of the field of communication. Major focus on the development of rhetorical theory with attention to rhetorical analysis and criticism. *3 sem. hrs.*
- CMM 460. ADVANCED PUBLIC RELATIONS: Focus on advanced topics in public relations. Emphasis on expanding writing and critical thinking skills learned in CMM 360. Analysis of case studies and development of response plans. Prerequisite: CMM 360. *3 sem. hrs.*
- CMM 461. PUBLIC RELATIONS WORKSHOP: Application of policy objectives to public relations program development. Students plan and carry out a public relations program for an established organization, working out solutions to communication and public relations problems. Prerequisite: CMM 330 or 412. *3 sem. hrs.*
- CMM 469. TOPICS IN PUBLIC RELATIONS: A concentrated study in specific areas of public relations. Development of specialized projects. May be repeated once with change of topics. Prerequisites: CMM 360 and 460. *3 sem. hrs.*
- CMM 498. COMMUNICATION INTERNSHIP: Communication work experience in an approved organization. Prerequisites: 24 sem. hrs. and 3.0 average in the major; 75 total sem. hrs. and 2.75 cum. average; permission of department chairperson. *3 or 6 sem. hrs.*
- CMM 499. SPECIAL TOPICS IN COMMUNICATION: Concentrated study in specific areas of speech communication. May be repeated once with change of topic. *3-6 sem. hrs.*

* General education course. See Chapter V.

COMPUTER SCIENCE (CPS)

The Department of Computer Science offers two programs leading to the Bachelor of Science: Program S4, in computer science, and Program S4C, in computer information systems. The main differences in the programs are in the mathematics and science requirements and in the application emphases. They have the same introductory core sequence of computer science courses.

The Computer Science program is accredited by the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB), a specialized accrediting body.

S4—Computer Science: Computer science is the study of algorithms and their implementation in the environment of computer hardware. It includes the study of data structures, software design, programming languages, and computer elements and architecture. A student entering this program is expected to be able to take calculus and nonremedial English. A transfer student must ordinarily be in good standing and have a cumulative average of at least 2.5 based on a scale of 4. Each student must take appropriate upper-level electives to ensure depth in at least three of five CPS subject areas as arranged with the advisor.

S4C—Computer Information Systems: This program emphasizes computer science concepts with particular attention to systems analysis and design, computer communications, and applications in one of the concentration areas listed in the description of the S4C program requirements.

A minor in computer science includes CPS 150, 151, 250, 350, and three other courses numbered 320 or above, excluding 435 and 437. A minor in computer information systems includes CPS 150, 151, 242, 310, 312, and two courses numbered 320 or above, excluding 435 and 437.

PROGRAM S4: BACHELOR OF SCIENCE WITH A MAJOR IN COMPUTER SCIENCE (CPS)¹

	<i>Semester Hours</i>
Computer science	45
Introductory core sequence: CPS 150, 151, 242, 250	
Further core requirements: CPS 341, 346, 350, 387	
Six additional upper-level courses, numbered 310 or above	
Mathematics: MTH 168, 169, 218, 302 ² , 367	18
Natural science: PHY 206, 207, 210L, 211L, or CHM 123, 124, 123L, 124L or BIO 151, 152, 152L, 201L or GEO 115, 116, 115L, 116L-and 2 additional courses acceptable for Science or Engineering majors	14
Communication skills	0-9
Humanities	9
Social and behavioral sciences	6
Philosophy and religious studies, including PHL 319	12
First-year experience: ASI 150	0-1
General Education courses and academic electives ³ to total at least	120

¹See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 353 may be substituted for MTH 302.

³A concentration or a minor in a specific discipline is recommended.

**PROGRAM S4C: BACHELOR OF SCIENCE WITH A MAJOR IN
COMPUTER INFORMATION SYSTEMS (CIS)¹**

	<i>Semester Hours</i>
Computer science	42
Introductory core sequence: CPS 150, 151, 242, 250, 341	
Further core requirements: CPS 310, 312, 346, 350	
Four additional upper-level courses, numbered 320 or above	
Concentration: A minor in one of the following areas: Anthropology, Biology, Chemistry, Communication, Criminal Justice, Economics, English, Family Development, Geology, History, Human Ecology, Languages, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Social Work, Sociology, Religious Studies, Accounting, Finance, International Business, Management, Marketing; or the following block of courses: ACC 207, 208; ECO 203, 204; MGT 311; MKT 305	
	15-27
Communication skills	0-9
Humanities ²	9
Mathematics: Calculus and statistics, (e.g., MTH 148,149,215) ²	9
Natural science ²	8
Social and behavioral sciences ²	6
Philosophy and religious studies, including PHL 319 ²	12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See General Requirements for all Bachelor of Science Programs and Chapter V for General Education Requirements.

²This requirement will be satisfied in some cases by the minor that is chosen.

FACULTY

To Be Announced, *Chairperson*

Professor Emeritus: Jehn, Kester

Professor: Winslow

Associate Professors: Lang, Schoen, Smith

Assistant Professors: Gowda, Maruyama, Pan, Shah

Adjunct Associate Professors: Jarrett, Lokai

Adjunct Assistant Professors: Beitel, Keim

Adjunct Instructor: Skudlarek

COURSES OF INSTRUCTION

CPS 107. COMPUTERS AND SOCIETY: Nontechnical introductory survey of the history and organization of digital computers; the diverse application of computers in government, business, education, and the arts; and the psychological and sociological impact of the computer age. Not open to CPS, CIS, or PCS majors.

3 sem. hrs.

CPS 111. INTRODUCTION TO PERSONAL COMPUTERS: Introduction to the use of personal computers. Emphasis on the use of the operating system, text processors, spreadsheets, database packages, and elementary communications.

3 sem. hrs.

CPS 132. COMPUTER PROGRAMMING FOR ENGINEERING AND SCIENCE: Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Calculus-based computer solutions of problems from science and engineering using FORTRAN. Corequisite: MTH 168.

3 sem. hrs.

CPS 144. INTRODUCTION TO COMPUTER PROGRAMMING: Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Computer solutions of problems from social sciences using a suitable compiler language such as FORTRAN, PL/I, or Pascal.

1-3 sem. hrs.

CPS 145. COBOL PROGRAMMING: Basic programming theory and practice using the COBOL language for business-oriented problems. Not open to CPS, CIS, or PCS majors.

1-3 sem. hrs.

CPS 146. (LIST PROCESSING) PROGRAMMING: Basic programming theory and practice using a language suitable to list-processing applications such as LISP or SNOBOL.

3 sem. hrs.

CPS 150. ALGORITHMS AND PROGRAMMING I: Algorithms, programs, and computers. Algorithm development, basic programming and programming structure. Debugging and program verification. Data representation. Computer solutions to numeric and non-numeric problems using a compiler language.

4 sem. hrs.

CPS 151. ALGORITHMS AND PROGRAMMING II: Continuation of CPS 150. Emphasis on program design, development and style, string processing, data structures, program modularity, and abstract data type, using a compiler language. Prerequisite: CPS 150.

4 sem. hrs.

CPS 242. INTRODUCTION TO FILE PROCESSING: The file processing environment, blocking and buffering, secondary storage devices, sequential file organization, relative file organization, and various indexed file organizations using a suitable compiler language such as COBOL. Prerequisite: CPS 150. Corequisite: CPS 151.

3 sem. hrs.

CPS 250. ALGORITHMS AND PROGRAMMING III: Study of computer organization and architecture by developing basic programming skills in an assembler language (currently 68000 or VAX) and in "C." Prerequisite: CPS 151.

4 sem. hrs.

CPS 308. SURVEY OF EXPERT SYSTEMS: An introduction to expert systems. Topics include knowledge structuring, production rules, and design tools. Specific systems are presented. Not open to CPS, CIS, or PCS majors.

3 sem. hrs.

CPS 309. TOPICS IN COMPUTER SCIENCE: Lectures or laboratory work in areas of current interest. May be taken more than once. Does not count as upper level credit for major/minors.

1-4 sem. hrs.

CPS 310. SYSTEMS ANALYSIS: Methodologies for producing software, software development life cycles, top-down approach, data flow diagram, data dictionary, mini-specifications, object analysis, event analysis, real-time systems specifications, automated analysis tools. Prerequisite: CPS 151. *3 sem. hrs.*

CPS 312. SYSTEMS DESIGN: Ideas behind structured design, tools of structured design, coupling and cohesion of modules, transform and transaction analyses, packaging, optimization, data structure and object-oriented design methodologies, automated design tools. Prerequisite: CPS 310. *3 sem. hrs.*

CPS 315. THE COMPUTING WORLD: Analysis of the tools and techniques of computers and of their impact on society. A framework for making professional decisions in the context of their social impact. Prerequisites: CPS 151, junior standing. *3 sem. hrs.*

CPS 341. DISCRETE STRUCTURES: Logic and proofs, sets and counting, Boolean algebra, graph theory, directed graphs, mathematical machines, formal languages and grammars. Prerequisite: CPS 150. *3 sem. hrs.*

CPS 343. COMPARATIVE LANGUAGES: Programming language constructs, organization, specification, and analysis. Prerequisite: CPS 350. *3 sem. hrs.*

CPS 346. OPERATING SYSTEMS I: Semaphores, conditions, monitors, and kernels. Concurrent programming, interrupts, memory, and process management. Design and implementation of a simple operating system using concurrent languages. Prerequisites: CPS 250, 350. *3 sem. hrs.*

CPS 350. DATA STRUCTURES AND ALGORITHMS: Basic concepts of data, list strings, arrays, trees and graphs, abstract data types, multilinked structures; symbol tables; searching and sorting. Use of relations, functions, and graphs in data management. Random access and representation of data structures on storage devices. Prerequisite: CPS 250. *3 sem. hrs.*

CPS 353. NUMERICAL METHODS I: Study of the algorithms of numerical mathematics with emphasis on interpolation, the solution of nonlinear equations, and linear systems of equations including matrix methods; analysis of errors associated with the algorithms. Prerequisites: MTH 169; CPS 132 or 150. *3 sem. hrs.*

CPS 354. NUMERICAL METHODS II: Study of the algorithms of numerical mathematics with emphasis on functional approximation, numerical differentiation and integration, numerical solution of ordinary differential equations and boundary value problems; analysis of errors associated with the algorithms. Prerequisite: CPS 353. *3 sem. hrs.*

CPS 387. COMPUTER SYSTEM DESIGN I: Study of the elements of computer design. Design of combinatorial and sequential logic circuits using current integrated circuit devices. Discussion of encoders, decoders, registers, counters, etc. as applied to design and use of arithmetic, logic, and storage units. Laboratory experiments with these devices. Prerequisites: CPS 250, CPS 341. *3 sem. hrs.*

CPS 388. COMPUTER SYSTEM DESIGN II: Detailed analysis of a specific microcomputer programmed in machine, assembler, and a higher-level language. Discussion of interfacing with devices such as displays, terminals, and other computers. Experiments with such interfacing in the laboratory. Prerequisite: CPS 387. *3 sem. hrs.*

CPS 411. MANAGEMENT INFORMATION SYSTEMS: The management information systems environment. The theory, technology, development of information systems. Emphasis on integration of information systems for decision support and other management information requirements. Prerequisite: CPS 310. 3 sem. hrs.

CPS 418. SOFTWARE ENGINEERING: A thorough examination of modern software methodologies, of the managerial and technological skills essential to the design and construction of high-quality software, and of the productivity and human factors in software development. Prerequisite: CPS 350. 3 sem. hrs.

CPS 424. DISCRETE EVENT SIMULATION TECHNIQUES: Design and use of simulation models; study and use of special-purpose simulation languages such as GPSS and GASP IV, SIMSCRIPT II.5. Applications. Prerequisite: CPS 151. 3 sem. hrs.

CPS 430. DATABASE MANAGEMENT SYSTEMS: Physical and logical organization of data files; hierarchical, network, and relational database models; the data definition language and the data manipulation language of a commercial database management system; query languages. Prerequisite: CPS 350. 3 sem. hrs.

CPS 435. MANAGEMENT OF DATABASES: The technology of network, hierarchical and relational database management systems, and the management of data in a business environment. Logical and physical database design with emphasis on the relational model in local and corporate systems. The role of the database administrator. Not open to CPS, CIS, or PCS majors or minors. Prerequisite: CPS 310. 3 sem. hrs.

CPS 437. SURVEY OF DATA COMMUNICATIONS: Concepts of data communications hardware and software; in local area (LAN) and wide area (WAN) networks. Fundamentals of business network design in the layered network architectures: X.25, OSI, SNA, and TCP/IP. Not open to CPS, CIS, or PCS majors or minors. Prerequisite: CPS 310. 3 sem. hrs.

CPS 444. SYSTEMS PROGRAMMING I: Analysis of compilers and their construction; programming techniques discussed in the current literature; advanced computer applications in mathematical and nonnumeric areas. Prerequisites: CPS 346, 350. 3 sem. hrs.

CPS 445. SYSTEMS PROGRAMMING II: A continuation of CPS 444, with emphasis on the application of the topics discussed. Prerequisite: CPS 444. 3 sem. hrs.

CPS 446. OPERATING SYSTEMS II: Design and implementation of a multi-user operating system, including concurrent processes, usage of monitors and kernels, process and device scheduling, virtual memory with paging, process synchronization and communication, input and output spooler, file systems, reliability and protection, interrupts, distributed system concepts. Prerequisite: CPS 346. 3 sem. hrs.

CPS 455. NUMERICAL ANALYSIS I: Error analysis, mathematical development of functional approximation including interpolation, quadrature, numerical differentiation, solution of ordinary differential equations. Prerequisites: CPS 132 or 150, MTH 302, 319. Recommended: CPS 353. 3 sem. hrs.

CPS 456. NUMERICAL ANALYSIS II: Mathematical development of the method of least squares, minimax approximation, solution of partial differential equations, applications. Prerequisite: CPS 455. 3 sem. hrs.

CPS 460. COMPUTER GRAPHICS: Introduction to graphics devices and software graphic primitives (points, lines, characters), two-dimensional transformations, clipping, survey of display devices and methods. Graphic input devices, representation of curves and surface in space. Prerequisites: CPS 350, MTH 302. 3 sem. hrs.

CPS 470. DATA COMMUNICATION: Principles of telecommunications hardware and software. Analysis of communication protocol layers with respect to performance, error handling, and control functions. Review of troubleshooting techniques currently in use. Prerequisite: CPS 350. 3 sem. hrs.

CPS 472. COMPUTER NETWORKING: Concepts and goals of computer networks (local area and long-haul). Network protocols, analysis, design management. OSI layers, gateways. Network topologies and case studies. Prerequisite: CPS 470. 3 sem. hrs.

CPS 480. ARTIFICIAL INTELLIGENCE: Basic concepts and techniques of intelligent systems. Emphasis on representations, problem solving, search strategies, expert systems, logic systems, and AI programming. Design and implementation of AI applications. Prerequisite: CPS 350. 3 sem. hrs.

CPS 482. AUTOMATA THEORY: Finite automata, sequential machines, survey of formal languages, introduction to computability, recursive functions, and Turing machines. Prerequisite: CPS 341. 3 sem. hrs.

CPS 496. COOPERATIVE EDUCATION: Computer science work experience in an approved organization. Prerequisite: 12 sem. hrs. of upper-level CPS courses with GPA of 3.0; total 90 sem. hrs. and 2.75 GPA. Permission of department advisor. Not open to students with CPS 497 credit. 3 sem. hrs.

CPS 497. INTERNSHIP: Computer science work experience in an approved organization. Prerequisite: 12 sem. hrs. of upper-level CPS courses with GPA of 3.0; total 90 sem. hrs. and 2.75 GPA. Permission of department advisor. Not open to students with CPS 496 credit. 3 sem. hrs.

CPS 498. PROBLEMS IN (NAMED AREA): Individual readings and research in a specialized area. (See CPS 499.) By arrangement. May be taken more than once for additional credit. Prerequisite: Permission of the department. 1-4 sem. hrs.

CPS 499. (SPECIAL TOPICS): Lectures or laboratory work in such areas as artificial intelligence, computer architecture, information retrieval, microprogramming, multiprogramming techniques, numerical analysis, time-sharing topics, graphics, data communications, parallel processing. By arrangement. May be taken more than once. Prerequisite: Permission of the department. 1-4 sem. hrs.

CRIMINAL JUSTICE (CRJ)

Program S5, leading to the Bachelor of Science with a major in Criminal Justice, offers three tracks of study. The student is to select one of the following tracks:

1. *General* (CRJ): This track prepares students for graduate or professional studies or, with appropriate minors, for specialized careers in criminal justice.
2. *Law Enforcement* (CRL): This track prepares students for careers in law enforcement and investigative services at the local, state, and national levels.
3. *Corrections* (CRC): This track prepares students for line-entry careers in the correctional field—probation and parole counseling, community programs, and other rehabilitative services.

The College of Arts and Sciences will classify students according to their previous academic experience. Those who enter the University of Dayton as first-year students, or as transfers without associate degrees, will be classified under *Option A: Total Program*. Students who transfer here with acceptable associate degrees in specific fields similar or closely related to criminal justice will be classified under *Option B: Transfer Program*.

All students transferring into the curriculum must be in good academic standing and meet entry requirements.

The minor in criminal justice requires 15 semester hours, to include CRJ 205, Introduction to Criminal Justice, or CRJ 210, Introduction to Corrections, or CRJ 220, Police Organization and Management, and 12 other upper-divisional semester hours in criminal justice subjects. Any student pursuing this minor is encouraged to consult a full-time criminal justice faculty member for guidance.

Proficiency examinations for limited CRJ credit are available only to majors who are in-service personnel, i.e., law-enforcement officers or probation and parole officials. Under Option A, students are limited to only 6 semester hours of proficiency examination credit, and under Option B, only 3 semester hours. Such students should make their formal appeals to the director's office at the beginning of each term so that it can be determined whether scheduling a proficiency examination during that term is warranted.

It is the sole responsibility of students to inform themselves of whatever changes occur in the curriculum and to observe all the regulations, procedures, and requirements of the University and the criminal justice program.

PROGRAM S5: BACHELOR OF SCIENCE WITH A MAJOR IN CRIMINAL JUSTICE¹

OPTION A: TOTAL PROGRAM¹

<i>General Track (CRJ)</i>	<i>Semester Hours</i>
Criminal justice	33
CRJ 205, 210, 220, 305, 320	15
CRJ electives	18
Social and behavioral sciences	24
POL 201, 301, 306	9
PSY 101; PSY 341 or SOC 341	6
PSY 363 or SOC 325	3
SOC 327, 328	6

Humanities ¹	9
Arts study	3
HST 102; 355 or 376 or 460	6
Philosophy and religious studies ¹	12
REL 103	3
PHL 103; 310 or 312; 314	9
Communication skills	6-12
ENG 101, 102; or 114 or 198; 272 or 316 or 474	6-9
CMM 101	0-3
Natural sciences (2 courses—lectures with laboratories) ¹	8
Quantitative studies	9
ACC 301	3
CPS 144 ²	3
MTH 207	3
General Education courses and upper-divisional electives to total at least	120

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 111 and a MTH elective (114, 116, 128, or 148) may be substituted.

<i>Law Enforcement Track (CRL)</i>	<i>Semester Hours</i>
Criminal justice	30
CRJ 205, 220, 305, 310, 315, 320	18
CRJ electives (upper-divisional)	12
Social and behavioral sciences	27
POL 201, 301, 450; POL 413 or SOC 336 or SOC 328	12
PSY 101, 363; PSY 341 or SOC 341	9
SOC 323, 327	6
Humanities ¹	9
Arts study	3
HST 102, 460	6
Philosophy and religious studies ¹	12
REL 103	3
PHL 103; 310 or 312; 314	9
Communication skills	9-15
ENG 101, 102; or 114 or 198; 370; 272 or 316 or 474	9-12
CMM 101	0-3
Natural sciences (2 courses—lectures with laboratories) ¹	8
Quantitative studies	9
ACC 301	3
CPS 144 ²	3
MTH 207	3
General Education courses and upper-divisional electives to total at least	120

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 111 and a MTH elective (114, 116, 128, or 148) may be substituted.

<i>Corrections Track (CRC)</i>	<i>Semester Hours</i>
Criminal Justice	30
CRJ 205, 210, 320, 323, 410	15
CRJ electives (upper-divisional)	15

Social and behavioral sciences	24
POL 201, 301; POL 305 or 306 or SOC 328	9
PSY 101, 431; PSY 341 or SOC 341	9
SOC 323, 327	6
Humanities ¹	9
Arts study	3
HST 102, 460	6
Philosophy and religious studies ¹	12
REL 103	3
PHL 103; 310 or 312; 314	9
Communication skills	9-15
ENG 101, 102; or 114 or 198; and 370; 272 or 316 or 474	9-12
CMM 101	0-3
Natural sciences (2 courses—lectures with laboratories) ¹	8
Quantitative studies	9
ACC 301	3
CPS 144 ²	3
MTH 207	3
General Education courses and upper-divisional electives to total at least	120

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 111 and a MTH elective (114, 116, 128, or 148) may be substituted.

OPTION B: TRANSFER PROGRAM

To be admitted as a major in the S5 program under Option B, a transfer student must have received an accredited associate degree in corrections, law enforcement, police administration, police science, or a similar field of criminal justice and must have a 2.5 cumulative grade-point average on a 4.0 grading system. The transfer program offers three areas of study, of which the student is to choose one and formally register the selection with the Office of Admission, the Criminal Justice Program, and the College of Arts and Sciences through the admission counselor, the assigned academic advisor, and the assistant dean. The areas are (1) the criminal justice generalist area, (2) the law-enforcement area, and (3) the corrections area. For criminal justice majors who have completed the basic requirements for an accredited two-year criminal justice degree, 66 semester hours beyond the associate degree is suggested.

Prerequisites: The following are required for all criminal justice transfer majors *in addition to* the baccalaureate degree requirements if they were not included in the candidate's associate degree program.

	<i>Semester Hours</i>
Accounting	(ACC 301)3
American Government	(POL 201)3
Criminology	(SOC 327)3
English	(ENG 101-102)6
History of Western Civilization	(HST 102)3
Introductory Psychology	(PSY 101)3
Natural science electives with laboratories	(BIO, CHM, GEO, PHY)8
Statistics ¹	(MTH 207)3
Introduction to Criminal Justice	(CRJ 205)3
Research in Criminal Justice	(CRJ 320)3

¹Prerequisite for MTH207 as well as CRJ 320 is two years of high school algebra. Students who have not had two years of high school algebra should first take MTH 102.

Transfer students must complete the following courses as part of the course of study for criminal justice majors here at the University of Dayton.

Any course that is specifically required of the criminal justice candidate by the University of Dayton for the baccalaureate degree and was taken at the institution conferring the student's associate degree should not be duplicated. Such a course is to be waived by the student's academic advisor upon the formal request of the student with the final approval of the College of Arts and Sciences and replaced with another course within the same division.

<i>General Track (CRJ)</i>	<i>Semester Hours</i>
Criminal justice	18
(CRJ 210 is specifically required as a prerequisite for students concentrating in the criminal justice general track <i>in addition</i> to the 18 semester hours in criminal justice if it was not included in the associate degree program.)	
CRJ 220, 305	6
CRJ electives (upper-divisional)	12
Social and behavioral sciences	15
POL 301, 306	6
PSY 341 or SOC 341	3
PSY 363 or SOC 325	3
SOC 328	3
Humanities ¹	6
Arts study	3
HST 355 or 376 or 460	3
Philosophy and religious studies ¹	12
REL 103	3
PHL 103, 314	6
PHL 310 or 312	3
Communication skills	3-6
ENG 272 or 316 or 474	3
CMM 101	3
Quantitative studies: CPS 144 ²	3
General Education courses and upper-divisional electives to total at least	66

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 111 and a MTH elective (114, 116, 128, or 148) may be substituted.

<i>Law Enforcement Track (CRL)</i>	<i>Semester Hours</i>
Criminal justice	15
(CRJ 220 and CRJ 305 are specifically required as prerequisites for students concentrating in the law enforcement track <i>in addition</i> to the 15 semester hours in criminal justice if they were not included in the associate degree program.)	
CRJ 310, 315	6
CRJ electives (upper-divisional)	9
Social and behavioral sciences	18
POL 301, 450	6
SOC 328	3

PSY 341 or SOC 341	3
PSY 363	3
SOC 323	3
Humanities ¹	6
Arts study	3
HST 460	3
Philosophy and religious studies ¹	12
REL 103	3
PHL 103, 314	6
PHL 310 or 312	3
Communication skills	9
ENG 272 or 316 or 474	3
ENG 370	3
CMM 101	3
Quantitative studies: CPS 144 ²	3
General Education courses and upper-divisional electives to total at least	66

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 111 and a MTH elective (114, 116, 128, or 148) may be substituted.

<i>Corrections Track (CRC)</i>	<i>Semester Hours</i>
Criminal justice	15
(CRJ 210 is specifically required as a prerequisite for students concentrating in the criminal justice corrections track <i>in addition</i> to the 15 semester hours in criminal justice if it was not included in the associate degree program.)	
CRJ 323, 410	6
CRJ electives (upper-divisional)	9
Social and behavioral sciences	15
POL 301	3
POL 305 or POL 306 or SOC 328	3
PSY 341 or SOC 341	3
PSY 431	3
SOC 323	3
Humanities ¹	6
Arts study	3
HST 460	3
Philosophy and religious studies ¹	12
REL 103	3
PHL 103, 314	6
PHL 310 or 312	3
Communication skills	9
ENG 272 or 316 or 474	3
ENG 370	3
CMM 101	3
Quantitative studies: CPS 144 ²	3
General Education courses and upper-divisional electives to total at least	66

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²CPS 111 and a MTH elective (114, 116, 128, or 148) may be substituted.

FACULTY

James A. Adamitis, *Director*

Associate Professors: Adamitis, Ingram

Lecturer: Heffernan

Adjunct Instructors: Abraham, Alexander, Apolito, Frapwell

COURSES OF INSTRUCTION

CRJ 205. INTRODUCTION TO CRIMINAL JUSTICE: Introduction to the field of criminal justice, stressing the theoretical foundations, origin, nature, methods, and limitations of criminal justice as a college curriculum. *3 sem. hrs.*

CRJ 210. INTRODUCTION TO CORRECTIONS: The administration of correctional institutions and other detention facilities with emphasis on probation and parole systems and the rehabilitation and treatment of the psychiatrically incarcerated. *3 sem. hrs.*

CRJ 220. POLICE ORGANIZATION AND MANAGEMENT: Principles and mechanisms for effective law enforcement management and responsive municipal police service; various police department structures, program development projects, promotional processes, and managerial techniques. *3 sem. hrs.*

CRJ 300. CRIME, JUSTICE AND TECHNOLOGY: Studies the impact technology has on influencing the regulatory process of the criminal justice system; its role in characterizing techno-crimes; moral ramifications and/or dilemmas confronting the practitioner, transgressor and victim; the implications of technology on violations of individual and social rights. *3 sem. hrs.*

CRJ 305. CRIMINAL LAW: Principles of criminal liability, preparation of case materials, court procedures, and case disposition. *3 sem. hrs.*

CRJ 310. LAW OF EVIDENCE: Comprehensive study of the rules of evidence, evaluation of evidence and proof (testimonial and physical), and function of evidence within the criminal justice system. Prerequisite: A course in criminal law. *3 sem. hrs.*

CRJ 315. CRIMINAL PROCEDURE: Fundamentals of criminal procedure: arrest, search, and seizure; interrogation, Constitutional limitations upon state and federal rules of criminal procedure. Prerequisite: A course in criminal law. *3 sem. hrs.*

CRJ 320. RESEARCH IN CRIMINAL JUSTICE: Review of the nature, language, and processes of inquiry involving experiments, studies, surveys, and investigations. The instrumentation, types, and structures of content analysis, questionnaires, interviews, and structured observation, including analytic techniques, data processing resources, and preparation of research reports. Required for all CRJ majors. Prerequisite: MTH 207. *3 sem. hrs.*

CRJ 323. MANAGEMENT AND TREATMENT OF OFFENDERS: Theory and practice of conducting and writing social investigations for agencies within the administration of justice, as well as managing and treating criminal offenders in community settings. Prerequisite: A course in corrections. *3 sem. hrs.*

- CRJ 325. COMMUNITY AND PUBLIC RELATIONS: Contemporary problems pertaining to criminal justice community relations: training programs, image development, and policies for releasing information to the mass media. *3 sem. hrs.*
- CRJ 327. CORPORATE SECURITY MANAGEMENT: Comprehensive managerial approach to developing adequate security systems; emphasis on personnel identification and theft-control procedures including intra-security surveys for deterring espionage, sabotage, and subversive line and staff activities. *3 sem. hrs.*
- CRJ 330. ORGANIZED CRIME: Social, psychological, and legal factors characterizing criminal careers; regional, political, and financial factors influencing organized crime. *3 sem. hrs.*
- CRJ 333. FOUNDATIONS OF CRIMINAL HOMICIDE: Theories and concepts pertinent to the various classes of homicide and the effects certain heinous crimes have had on the regulatory aspects of the legal system. Emphasis on distinguishing characteristics historically pertaining to culpable, justifiable, and excusable homicide. *3 sem. hrs.*
- CRJ 336. COMPARATIVE CRIMINAL JUSTICE SYSTEMS: Survey of cross-cultural uniformities and diversities in law-enforcement agencies, correctional systems, and the courts in selected countries. Prerequisite: An introductory course in criminal justice. *3 sem. hrs.*
- CRJ 399. SPECIAL TOPICS IN CRIMINAL JUSTICE: An extensive examination of a current topic effecting the criminal justice system and its law enforcement, corrections or judicial components. May be repeated to a maximum of 3 semester credits when the topic changes. *3 sem. hrs.*
- CRJ 400. CORRECTIONAL LAW: Analysis and historical overview of the law of criminal correction. Emphasis on the current legal rights of inmates of penal institutions, parolees, probationers, and those persons upon whom sentence has not yet been imposed. *3 sem. hrs.*
- CRJ 401. POLITICAL VIOLENCE: Theoretical approaches to understanding violent change in political institutions and the criminal justice system; the continuum between violence and nonviolence; revolution, revolt, terrorism, and political assassination. Emphasis on the roles of criminal justice and government agencies in meeting political dissent. *3 sem. hrs.*
- CRJ 405. LABOR RELATIONS IN JUSTICE ADMINISTRATION: The role of law in collective bargaining; the activities of labor organizations; the impact certain unions have had on the administration of justice and law enforcement. *3 sem. hrs.*
- CRJ 407. CONSUMER LAW: Analysis of crimes against the consumer; legal systems, consumer structures, and agencies used to establish, advance, and litigate consumers' rights and protections. *3 sem. hrs.*
- CRJ 410. VICTIMOLOGY: The victimal justice process as an integral part of the criminal justice system; analysis of the penal couple and victimal receptivity with emphasis on victim-offender relationships, rape, and victim compensation. *3 sem. hrs.*

CRJ 416. DRUG ABUSE: Physical and behavioral variables contributing to drug abuse and narcotic addiction; assessment of several rehabilitation programs and medical treatment centers; emphasis on law and drug abuse cases. 3 sem. hrs.

CRJ 420. COMPUTER CRIME: Study of the theoretical and practical foundations of white-collar crime in the computer arena. Types of computer crime, methods of commission, federal and state laws, prevention and detection, apprehension and punishment, and the future of computer crime. Prerequisite: CPS 144. 3 sem. hrs.

CRJ 436. CRIME AND JUSTICE IN THE BRITISH ISLES: Comparison of crime and the administration of justice in the British Isles and the U.S. Trends in British criminal and juvenile justice. Available only during the summer session. 3 sem. hrs.

CRJ 440. INDEPENDENT STUDY: Directed study and research on selected topics of significant academic publications in law enforcement and criminal justice. Prerequisites: Permission of instructor; an introductory CRJ course. 3 sem. hrs.

CRJ 447. CONTEMPORARY ISSUES IN JUSTICE ADMINISTRATION: Seminar to identify and discuss the contemporary issues in justice administration. Topics to be assigned by instructor and presented for class discussion by students. 3 sem. hrs.

CRJ 495. INTERNSHIP IN CRIMINAL JUSTICE I: Supervised experience solely in a civilian capacity in a criminal justice or law-enforcement agency. Open to pre-service criminal justice majors only; in-service students do not qualify. Students who enroll for internship credit are not given a stipend, nor are they permitted to register for CRJ 498 or 499. Credit granted only under grade option 2. Prerequisites: Sophomore status, 2.5 cumulative grade-point average, and permission of the director of criminal justice. 3 sem. hrs.

CRJ 496. INTERNSHIP IN CRIMINAL JUSTICE II: Continuation of CRJ 495. 3 sem. hrs.

CRJ 498. COOPERATIVE EDUCATION IN CRIMINAL JUSTICE I: Structured educational work experience for full-time pre-service criminal justice majors only. Career development and financial assistance for those who qualify and are placed through the University of Dayton's Career Placement Center. Students who enroll for cooperative education credit are not permitted to register for CRJ 495 or 496. Credit granted only under grade option 2. Prerequisites: Sophomore status, 2.5 cumulative grade-point average, and permission from the director of Cooperative Education and the director of criminal justice. 3 sem. hrs.

CRJ 499. COOPERATIVE EDUCATION IN CRIMINAL JUSTICE II: Continuation of CRJ 498. 3 sem. hrs.

ECONOMICS (ECO)

In cooperation with the Department of Economics and Finance in the School of Business Administration, the College of Arts and Sciences offers the degree of Bachelor of Arts with a major in Economics.

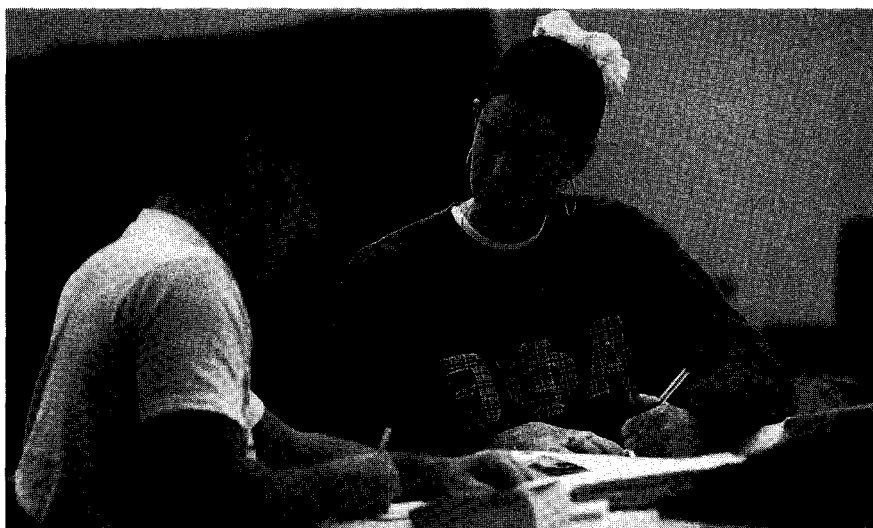
For a minor in economics, 18 semester hours are required: ECO 203-204, 346-347, and any two elective courses from economics.

For course descriptions, see ECO, Chapter VII.

PROGRAM A4: BACHELOR OF ARTS WITH A MAJOR IN ECONOMICS (ECA)¹

	<i>Semester Hours</i>
Economics	30
ECO 203, 204, 346, 347, and 18 sem. hrs. of upper-division electives.	
Mathematics	6-9
MTH 148, 207 required; MTH 149 strongly recommended.	
Natural science	7
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.



ENG

ENGLISH (ENG)

The University requirement in English composition is satisfied by the completion of ENG 101-102, ENG 114, or ENG 198. Either ENG 114 or ENG 198 is the equivalent of ENG 102 as a prerequisite for 200- and 300-level English courses. For placement information, see Reading and Writing Skills under Basic Skills Requirements in Chapter V. For additional details, consult the department chairperson or the coordinator of composition.

Students majoring in English must complete at least 36 semester hours of English courses including first-year composition, at least one 200-level literature course or ENG 151, and at least 24 semester hours at the 300-400 level.

Students minoring in English must complete at least 12 semester hours of upper-divisional (300-400) courses in addition to the composition requirement. Students in B.A. programs can acquire teacher certification in English through the ELL program. (See EDT.) For details, consult the department chairperson.

The English department awards a writing certificate to students who achieve a 3.0 grade-point average in 18 semester hours of approved writing and writing-related courses, including at least 12 semester hours of upper-divisional (300-400) courses, and who pass a final examination including an impromptu essay. For details, consult the department chairperson.

PROGRAM A5: BACHELOR OF ARTS WITH A MAJOR IN ENGLISH (ENG)¹

	<i>Semester Hours</i>
English	36
First-year composition: ENG 101-102 or 114 or 198	0-6
One 200-level literature course or ENG 151	3
Shakespeare: ENG 362 or an equivalent seminar	3
One other major author course: ENG 405, 431, or a seminar on a single author	3
One genre course: ENG 317, 319, 320, 324, 329, 330, or an approved substitute	3
One literary period course: ENG 407, 410, 414, 433, 438, 444, 448, 451, 453, 455, 482, or the equivalent	3
One advanced writing course: ENG 308, 310, 312, 316, 370, 372, 376, 378, or 474	3
ENG electives, including at least 9 sem. hrs. at 300-400 level	12-18
CMM 101	3
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

FACULTY

James P. Farrelly, *Chairperson*

Sara G. Wieland, *Coordinator of Composition*

Professors Emeriti: Cochran, Labadie, McCarthy, Murphy, Palumbo

Professors: August, Bedard, Farrelly, Henninger, Kimbrough,

K. Marre, Martin, Patrouch, Pici

Associate Professors: Arons, Cameron, Macklin, L. Marre, Means,

Ruff, Stockum

Assistant Professors: Boehnlein, Conniff, Durham, Shereen, Thomas, Tuss, Wilhoit, Youngkin

COURSES OF INSTRUCTION

ENG 101. COLLEGE COMPOSITION I: Analysis of the processes of reading and writing aimed at the development and refinement of critical thinking skills, critical reading skills, and critical writing skills. Required departmental examination. *3 sem. hrs.*

ENG 102. COLLEGE COMPOSITION II: Study of appropriate rhetorical structures and styles for analytic, synthetic, and argumentative essays. Practice in developing critical reading and writing skills with an emphasis on writing from sources. Prerequisite: ENG 101. *3 sem. hrs.*

ENG 114. FRESHMAN WRITING SEMINAR: A one-semester composition course for first-year students who show high proficiency. First term only. Open by permission only. *3 sem. hrs.*

* ENG 151. INTRODUCTION TO LITERATURE: A critical study of literary forms—fiction, drama, and poetry—representative of various eras and cultures. May be taken concurrently with ENG 102. Prerequisite: ENG 101 or equivalent. *3 sem. hrs.*

ENG 198. FRESHMAN HONORS SEMINAR: Study and seminar discussion of selected literary masterworks and appropriate criticism thereof, with equal emphasis on composition. Open by permission only to first-year students in the University Honors Program. *3 sem. hrs.*

* ENG 203. MAJOR BRITISH WRITERS: Study of four or five writers representative of the principal periods in English literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

* ENG 204. MAJOR AMERICAN WRITERS: Study of four or five writers representative of the principal periods in American literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

* ENG 205. MAJOR WORLD WRITERS: Study (in translation) of four or five writers representative of the principal periods in world (chiefly Western) literature, exclusive of English and American literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 210. POETRY: Study of representative examples of a major literary genre. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

- ENG 230. TOPICS IN LITERATURE: Exploration of varying approaches to the study of literature. Can be repeated under special circumstances. Prerequisite: ENG 102 or equivalent. *1-6 sem. hrs.*
- ENG 242. SOPHOMORE HONORS: Seminar in which selected works from the literature of Western civilization are studied. By invitation only. *3 sem. hrs.*
- ENG 272. EXPOSITORY WRITING: Further practice in writing expository themes and documented papers. A continuation of ENG 102 for students desiring more experience in writing. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 282. INTRODUCTION TO WRITING POETRY: A beginning course in analyzing and writing poetry. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 284. INTRODUCTION TO WRITING FICTION: A beginning course in analyzing and writing short fiction. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 286. INTRODUCTION TO WRITING DRAMA: A beginning course in analyzing and writing short plays. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 301. SURVEY OF EARLY ENGLISH LITERATURE: Survey of English literature from the Medieval period to the end of the 18th century. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 302. SURVEY OF LATER ENGLISH LITERATURE: Survey of English literature from the beginning of the Romantic period to the present. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 305. SURVEY OF AMERICAN LITERATURE: Survey of American literature from the Colonial period to the present. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 306. SURVEY OF CONTINENTAL LITERATURE: Survey of continental European literature from Homer to the present. Prerequisite: ENG 102 or equivalent. Not open to students who have taken ENG 322. *3 sem. hrs.*
- ENG 308. ADVANCED WRITING OF POETRY: Intensive practice in the writing of poems. Prerequisite: ENG 282 or permission. *3 sem. hrs.*
- ENG 310. ADVANCED WRITING OF FICTION: Intensive practice in the writing of fiction. Prerequisite: ENG 284 or permission. *3 sem. hrs.*
- ENG 312. ADVANCED WRITING OF DRAMA: Intensive practice in the writing of plays. Prerequisite: ENG 286 or permission. *3 sem. hrs.*
- ENG 316. ADVANCED COMPOSITION: Intensive practice in the writing of essays and the study of rhetoric. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 317. CONTEMPORARY POETRY: Study of selected poems by recent writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 319. CONTEMPORARY FICTION: Study of selected novels and short fiction by recent writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 320. CONTEMPORARY DRAMA: Study of selected plays to illustrate major tendencies of modern drama. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

- ENG 322. MASTERPIECES OF WORLD LITERATURE: Intensive study of major literary works representative of various cultures. Works are studied in translation, although an English language work or two may be included for appropriate comparison. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 324. THE NOVEL: A consideration of selected novels to illustrate various fictional modes. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 325. SCIENCE FICTION: Survey of science fiction with detailed analysis of selected novels and short fiction. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 327. STUDIES IN POPULAR FICTION: Analysis of selected artifacts of popular culture with reference to serious literature. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 329. SHORT STORY: Study of the techniques employed in the writing of the short story. Analysis of various models of the short story. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 330. DEVELOPMENT OF DRAMA: Study of the historical development of the drama from its beginnings to the 19th century. Analysis of plays from each significant period. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 331. STUDIES IN FILM: Analysis of selected films to show developments in film technique or criticism. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 332. STUDIES IN LITERATURE AND FILM: Studies in literary texts and the film treatments of those texts. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 333. IMAGES OF WOMEN IN LITERATURE: Examination of significant literary works that portray traditional images of women. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 335. MODERN BLACK LITERATURE: Study of selected 20th-century black writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 337. STUDIES IN FOLKLORE: Selected studies in American and/or world folklore. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 339. AMERICAN INDIAN LITERATURE: Survey of American Indian oral narrative and literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 348. MODERN IRISH LITERATURE: A consideration principally of the Irish literary revival of the late 19th and early 20th centuries with appropriate background material. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 350. EUROPEAN LITERATURE OF ANTIQUITY: Study of significant works from the Old Testament and Greek, Roman, English, Irish, and/or Scandinavian writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 351. EUROPEAN LITERATURE OF THE MIDDLE AGES: Study of selected literary masterpieces of Western civilization in the Middle Ages. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 353. LITERATURE OF THE RENAISSANCE: Study of selected literary masterpieces from England and the Continent that illustrate the culture and ideas of the Renaissance. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

- * ENG 354. LITERATURE OF THE ENLIGHTENMENT: Study of selected English and European literature from the Age of Reason. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 355. LITERATURE OF THE ROMANTIC AGE: Study of the Romantic Revolution as illustrated in representative writings of English and European authors. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 356. EUROPEAN LITERATURE OF THE NINETEENTH CENTURY: Study of representative masterpieces from the literature of England and the Continent during the 19th century. Prerequisite: ENG 102 or equivalent *3 sem. hrs.*
- * ENG 357. EUROPEAN LITERATURE OF THE EARLY TWENTIETH CENTURY: Study of significant English and European literature that illustrates the ideas and culture of the early modern period. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 358. CONTEMPORARY LITERATURE OF EUROPE: Study of selected Western European literature that illustrates the ideas and culture of the present age. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- * ENG 362. SHAKESPEARE: Study of selected plays and poems of Shakespeare. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 362L. SHAKESPEARE PERFORMANCE LABORATORY: Study of Shakespearean performances through films, video tapes, and recordings. Three hours a week. Students in 362L must have already taken or be registered for ENG 362 or an equivalent Shakespeare course. *1 sem. hr.*
- ENG 370. REPORT WRITING: Analysis of and practice in both basic and complex written reports, including the long formal report. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 372. APPLIED WRITTEN COMMUNICATIONS: Analysis of and practice in written communications appropriate to business and industrial organizations, including forms of correspondence and a job-application project but excluding formal reports. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 376. TOPICS IN WRITING: Analysis of and practice in specific forms of writing. May be repeated as forms change. Prerequisite: ENG 102 or equivalent. *1-3 sem. hrs.*
- ENG 378. PROFESSIONAL AND TECHNICAL WRITING: Practice in developing writing skills needed in business, government, and industry. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*
- ENG 380. STUDIES IN LITERATURE: Study of special topics or themes in literature. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *1-6 sem. hrs.*
- ENG 395. JUNIOR HONORS TUTORIAL: Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Permission required. *3 sem. hrs.*

- ENG 405. CHAUCER: Study of Chaucer's life, world, language, and literary achievement, concentrating on *The Canterbury Tales* (in Middle English). Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 407. MEDIEVAL ENGLISH LITERATURE: Study of the dominant types in the literature of England from the beginning to 1500. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 410. EARLY RENAISSANCE LITERATURE: Survey of the literature of the 16th century from Thomas More to Sidney and Spenser. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 414. LATER RENAISSANCE LITERATURE: Survey of the literature of the early 17th century from Bacon, Jonson, and Donne to Marvell, exclusive of Milton. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 431. MILTON: Study of the major and minor poems and of selected prose of Milton. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 433. STUDIES IN NEO-CLASSICAL LITERATURE: Study of English literature from Dryden to Johnson. May be repeated as topics change. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 438. ENGLISH ROMANTICISM: Study of the major poets and critics of the Romantic Age. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 444. STUDIES IN NINETEENTH-CENTURY ENGLISH LITERATURE: Study of English literature in the 19th century. May be repeated as topics change. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 448. TWENTIETH-CENTURY BRITISH LITERATURE: Study of significant developments in modern British literature. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 451. AMERICAN ROMANTICISM: Study of significant developments in American literature of the mid-19th century. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 453. AMERICAN REALISM AND NATURALISM: Study of representative writers from the post-Civil War period in American literature. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 455. TWENTIETH-CENTURY AMERICAN LITERATURE: Study of significant developments in American literature of the 20th century. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 468. INTRODUCTION TO LINGUISTICS: Introduction to the basic concepts and procedures of general linguistics, including language description, history, variation, theory, and acquisition. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.
- ENG 470. HISTORY OF ENGLISH: Study of stages in the development of the English language and of influences shaping its development from the beginning to the present. Prerequisite: A 200- or 300-level English course. 3 sem. hrs.

ENG 472. THE STRUCTURE OF ENGLISH: Study of the grammatical structure of modern English from traditional and modern linguistic points of view. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 474. ARGUMENTATION: Studies and practice in the patterns of argumentative writing. Recommended for the pre-professional student. Prerequisite: ENG 272, 316, 370, or permission of instructor. *3 sem. hrs.*

ENG 476. COMPOSITION THEORY: Study of the principal current theories of composition, with application to the teaching and evaluating of writing. Prerequisite: ENG 316 or permission of instructor. *3 sem. hrs.*

ENG 480. INDEPENDENT STUDY: Individual investigations of special topics under faculty direction. May be repeated under special circumstances. Prerequisites: Permission and at least fifteen semester hours of English. *1-6 sem. hrs.*

ENG 482. MODERN POETRY: Concentrated, advanced study in the development of modern poetry, both English and American. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 485. INTERNSHIP IN WRITING: Application of writing skills to specific projects of an approved organization. Practical and professional experience offered to juniors and seniors (particularly English majors and minors) as a supplement to the writing curriculum. Prerequisite: Permission of supervising instructor. May be repeated up to six semester hours. *1-6 sem. hrs.*

ENG 490. SEMINAR: Concentration on one literary figure, genre, or period for research and analysis. May be repeated as topics change. Consult departmental booklet for specific prerequisites for each section. Permission required. *3 sem. hrs.*

ENG 495. SENIOR HONORS TUTORIAL: Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Permission required. *3 sem. hrs.*

*General education course. See Chapter V.

FAMILY DEVELOPMENT (FDV)

The interdisciplinary minor in family development increases understanding of the meaning and dynamics of marriage and parenthood in contemporary society. It examines the family as a major institution affecting society and surveys the individual, social, and economic problems found within families. This background contributes to preparation for careers in areas such as social work, psychology, education, communication, human ecology, and religious work.

The minor in family development is earned by taking 16 semester hours of coursework, at least 12 of which must be at the 300-400 level and all of which must be outside one's major discipline. These must be distributed as follows:

	<i>Semester Hours</i>
Basic theory course in family development (Choose one.)	3
HEC 318 Family Living	
SOC 331 Marriage and the Family	
Families and society (Choose one.)	3
HST 352 History of the American Family	
SOC 355 Families and the Economy	
Dynamics of family life (Choose one.)	3
CMM410 Family Communication	
PHL 318 Family Ethics	
REL 344 Christian Marriage	
ASI 448 Seminar in Family Development (required)	1
Electives (Choose two.)	6
BIO 390 Sex and Fertility Regulation	
HEC 306 Family Management	
HEC 325 Child Development	
HEC 329 Child Development Practicum	
PSY 251 Human Growth and Development	
PSY 351 Child Psychology	
PSY 355 Psychology of the Exceptional Child	
PSY 462 Human Sexuality	
REL 362 Christian Family Values and Television	
REL 466 Theology of Sexuality	
SOC 322 Sex Roles and Society	
SOC 323 Juvenile Delinquency	
SOC 330 Perspectives on Aging	
SWK 330 Perspectives on Aging	
SWK 325 Child Abuse	
SWK 331 Death, Dying, and Suicide	

No more than 6 semester hours from any one department may be applied to the minor in family development. Courses taken for this minor may be applied to other minors and to breadth and general education requirements. Appropriate courses may be substituted with permission from the office of the dean of the College of Arts and Sciences and the director of the Center for the Study of Family Development. Students wishing to be recorded as minoring in family development should notify their chairpersons, their deans, and the director of the Center for the Study of Family Development.

FAMILY DEVELOPMENT COMMITTEE

Patricia Voydanoff, *Director, Center for the Study of Family Development*

Brenda Donnelly, *Research Associate*

Allik (Psychology), DeLuca (Human Ecology), Herbenick (Philosophy),

L. Majka (Sociology, Anthropology and Social Work), Huff (College of Arts and Sciences), Taylor (Sociology, Anthropology and Social Work)

GEN

GENERAL STUDIES (GEN)

The Bachelor of General Studies program is designed for those students who do not wish to pursue a traditional degree program with a departmental major. It permits great latitude in utilizing University resources for acquiring an education that serves individual needs. Since only the basic University requirements must be met, there are no specific requirements. Students may plan their programs to the best advantage of their particular educational objectives.

BACHELOR OF GENERAL STUDIES PROGRAM (GEN)

Admission requirements for the Bachelor of General Studies are the same as those for any other degree now offered in the College of Arts and Sciences.

Candidacy for the Bachelor of General Studies may be declared in the first year but not later than the end of the junior year. Students in good academic standing may transfer from one program to another, provided they meet the requirements of, and can be accommodated by, the programs into which they wish to transfer.

The first-year student is required to seek approval of course selections under the direction of the appropriate official of the College of Arts and Sciences. Thereafter, the student will be required to plan an academic program satisfying requirements for graduation in consultation with the College office. The usual policy on prerequisites remains in effect in this program.

The candidate must complete 120 semester hours with an overall grade point average of 2.0 or better, including

1. University requirements (see Chapter V),
2. a minimum of 54 semester hours of courses at the 300-400 level with a grade point average of 2.0 or better, and
3. not more than 30 semester hours of work from any one academic discipline.



GEOLOGY (GEO)

The following program, leading to the Bachelor of Science with a major in Geology, is designed to present students with the basic courses in the geological sciences and to enable them to construct specific curricula to suit their particular interests in areas of advanced study.

Any student wishing to pursue a Bachelor of Arts with a major in Geology should consult with the chairperson of the department.

A student wishing to choose geology as a minor concentration must take 12 semester hours in 300-400 level courses, and any prerequisites.

PROGRAM S6: BACHELOR OF SCIENCE WITH A MAJOR IN
GEOLOGY (GEO)¹

	<i>Semester Hours</i>
Geology	38
Mathematics 168-169 ²	8
Chemistry 123-124	8
Physics 206-207 ³	6
Science electives ⁴	16
Philosophy and religious studies	12
Communication skills	0-9
Social and behavioral sciences	6
Humanities	9
First-year experience: ASI 150	0-1
General Education requirements and academic electives to total at least	120

¹See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²May substitute MTH 148-149 with permission of department.

³May substitute PHY 201-202 with permission of department.

⁴Choose from courses in chemistry, mathematics, physics, biology, geology, computer science, or (with chairperson's approval) engineering.

FACULTY

Charles J. Ritter, *Chairperson*
Distinguished Service Professor: Springer
Professor: Ritter
Associate Professor: Sandy
Assistant Professor: Pair, Koziol

COURSES OF INSTRUCTION

* GEO 103. PRINCIPLES OF PHYSICAL GEOLOGY: Analysis of the physical factors of the earth's environment: weather, climate, land forms, oceans. 3 sem. hrs.

- GEO 104. INTRODUCTORY GEOLOGY FIELD COURSE: Fundamental earth science topics with emphasis on direct field experience. One week on campus, 3 weeks in the Rocky Mountains near Denver, Colorado, and one week of travel. For all non-geology and non-biology majors. Corequisites: BIO 104; GEO 104L or BIO 104L. Third term, each year. *3 sem. hrs*
- GEO 104L. INTRODUCTORY GEOLOGY FIELD LABORATORY: Course to accompany GEO 104. Third term, each year. *1 sem. hr.*
- * GEO 109. GENERAL GEOLOGY: Introduction to the earth as a planet, its composition, structure, and evolutionary development; a brief consideration of the life of the past. For the nonscience major. May be taken without laboratory. *3 sem. hrs.*
- GEO 109L. GENERAL GEOLOGY LABORATORY: Course to accompany GEO 109. Two hours each week. *1 sem. hr.*
- * GEO 115. PHYSICAL GEOLOGY: Introductory course in geologic principles; the composition and structure of the earth, its land forms, and the agencies active in their production. Laboratory optional for nonmajors. *3 sem. hrs.*
- GEO 115L. PHYSICAL GEOLOGY LABORATORY: Course to accompany GEO 115. Two hours each week. *1 sem. hr.*
- * GEO 116. HISTORICAL GEOLOGY: A comprehensive study of earth history from its origins to the present. Prerequisites: GEO 109 or 115, permission of instructor. *3 sem. hrs.*
- GEO 116L. HISTORICAL GEOLOGY LABORATORY: Course to accompany GEO 116. Two hours each week. *1 sem. hr.*
- GEO 198. GEOLOGY, LANDSCAPE, AND ENVIRONMENT OF THE MIAMI VALLEY: Field-based course examining the geologic history of the Miami Valley and Dayton area; processes leading to the modern landscape; the impact of human activity will be assessed. Prerequisite: GEO 109 or 115 or permission of instructor. Summer. *3 sem. hrs.*
- GEO 201. MINERALOGY: Introduction to the study of minerals, their chemical and physical properties, associations and occurrences. First term, each year. *3 sem. hrs.*
- GEO 201L. MINERALOGY LABORATORY: Course to accompany GEO 201. Three hours per week. First term, each year. *1 sem. hr.*
- GEO 204. OPTICAL MINERALOGY: Mineral determination through the use of the petrographic microscope employing crushed grains and thin sections. Prerequisite: GEO 201. Second term, each year. *2 sem. hrs.*
- GEO 204L. OPTICAL MINERALOGY LABORATORY: Course to accompany GEO 204. Four hours each week. Second term, each year. *2 sem. hrs.*

* GEO 208. ENVIRONMENTAL GEOLOGY: Study of the relationship of geologic factors to the problems of water supply, pollution, erosion, land use, and earth resources. Laboratory optional. Second term, each year. Prerequisites: GEO 109 or 115, permission of instructor. *3 sem. hrs.*

GEO 208L. ENVIRONMENTAL GEOLOGY LABORATORY: Course to accompany GEO 208. Two hours each week. *1 sem. hr.*

* GEO 218. ENGINEERING GEOLOGY: A comprehensive study of geologic principles applicable to civil engineering practices. First term, each year. *3 sem. hrs.*

GEO 301. STRUCTURAL GEOLOGY: The origin and development of structural features of the earth's crust; folding, faulting, volcanism, mountain building, and metamorphism. Prerequisites: GEO 115, 116, 201, 204. First term, alternate years. *3 sem. hrs.*

GEO 301L. STRUCTURAL GEOLOGY LABORATORY: Course to accompany GEO 301. Two hours each week. First term, alternate years. *1 sem. hr.*

GEO 302. GLACIAL GEOLOGY: The origin of mountain and continental glaciers; their depositional features and erosive activity; history of glaciation in geologic past with special emphasis on North American Quaternary ice advances. Prerequisites: GEO 115, 116. Second term, alternate years. *3 sem. hrs.*

GEO 302L. GLACIAL GEOLOGY LABORATORY: Course to accompany GEO 302. Two hours each week. Second term, alternate years. *1 sem. hr.*

GEO 303. FIELD GEOLOGY: Study of field relationships in an area of Britain containing abundant igneous, metamorphic, and sedimentary rocks. Prerequisites: GEO 115, 116, 301. Summer. *6 sem. hrs.*

GEO 307. GEOMORPHOLOGY: Detailed study of landforms and the erosional processes that develop them. Prerequisites: GEO 115, 116, 301. Second term, alternate years. *3 sem. hrs.*

GEO 307L. GEOMORPHOLOGY LABORATORY: Course to accompany GEO 307. Two hours each week. Second term, alternate years. *1 sem. hr.*

GEO 308. PROBLEMS AND DECISIONS IN ENVIRONMENTAL GEOLOGY: An in-depth examination of selected environmental problems and the way in which scientific information guides practice and policy. Topics will range from investigations of natural hazards to considerations of land use and water resources. Prerequisite: GEO 109 or GEO 115 or permission of instructor. *3 sem. hrs.*

GEO 308L. PROBLEMS AND DECISIONS IN ENVIRONMENTAL GEOLOGY LABORATORY: Course to accompany GEO 308. Two hours each week and periodic field work. *1 sem. hr.*

GEO 309. SURFACE AND GROUNDWATER HYDROLOGY: This course is designed to provide a science or engineering student with the fundamental concepts and principles central to the study of water as a resource. This will include an examination of all components of the hydrologic cycle including surface-water hydrology and management, groundwater hydrogeology, and water resource management. Prerequisite: GEO 109 or GEO 218 or permission of instructor.

3 sem. hrs.

GEO 309L. SURFACE AND GROUNDWATER HYDROLOGY LABORATORY: Laboratory exercises to accompany GEO 309. Three hours per week.

1 sem. hr.

GEO 310. STRATIGRAPHY: The interpretation of specific lithotypes and the synthesis of the stratigraphic record. Prerequisites: GEO 116, 301. Second term, alternate years.

3 sem. hrs.

GEO 310L. STRATIGRAPHY LABORATORY: Course to accompany GEO 310. Two hours each week. Second term, alternate years.

1 sem. hr.

GEO 401. PALEONTOLOGY: The study of ancient life. The morphology, ecology, evolution, and stratigraphic distributions of selected invertebrates, vertebrates, and plants. First term, alternate years.

3 sem. hrs.

GEO 401L. PALEONTOLOGY LABORATORY: Course to accompany GEO 401. Two hours each week. First term, alternate years.

1 sem. hr.

GEO 403. SEDIMENTOLOGY: Detailed study of sediments: their sources, environments of deposition, and methods of consolidation. Emphasis on the interpretation of ancient sediments. Prerequisites: GEO 201, 204, 301. First term, alternate years.

3 sem. hrs.

GEO 403L. SEDIMENTOLOGY LABORATORY: Course to accompany GEO 403. Two hours each week. First term, alternate years.

1 sem. hr.

GEO 498. GEOLOGICAL RESEARCH AND THESIS: Research project within an area of the geological sciences, including, but not limited to, environmental geology, geochemistry, geomorphology, or paleontology. The results are to be presented in a written thesis. Prerequisite: Permission of instructor.

4 sem. hrs.

*General Education course. See Chapter V.

HISTORY (HST)

History critically studies the past and those key values which have shaped society. History also provides students with a sense of perspective and with the ability to make critical judgments. Those with a sharply honed historical consciousness know that often what appears to be a simple solution to a simple problem will not work because unexpressed historical forces and traditions lie just beneath the surface. Therefore, historical consciousness helps to make the world comprehensible. To be ignorant of history is to be, in a very fundamental way, intellectually defenseless, unable to understand the workings of this or other societies. Thus all totalitarian societies have stringently controlled the study and writing of history. They recognize that a free mind needs to know its past, to debate and discuss how the world came to be as it is, in order to know what to defend and what to change and how to resist imposed ideologies.

Students majoring in history are offered a flexible curriculum that allows them to have a double major or one or more minors. Students are also strongly encouraged to develop interdisciplinary areas of concentration to meet their interests and vocational goals. Examples of areas of concentration are pre-law, business, international affairs, and historical administration, preservation, and archival management. Majors should consult the department chairperson for a departmental advising brochure and further details. History majors pursue professions in numerous fields including education, law and government, international affairs, archives and museums, communications, and business.

Students in B.A. programs can acquire teacher certification in history through the E11 program (See EDT). For details, consult the department chairperson.

History minors must complete 18 semester hours as follows: HST 101 or 102, HST 251 or 252, two upper-level courses in American history, and two upper-level courses in non-American history.

PROGRAM A6: BACHELOR OF ARTS WITH A MAJOR IN HISTORY (HST)¹

	<i>Semester Hours</i>
History	36
HST 101, 102, 251, 252	12
HST 301	3
HST seminar: HST 490, 491, or 492	3
HST electives	18
These electives should be distributed fairly evenly between American and non-American history.	
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
Quantification skills or foreign language ²	6-8

First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²Either 6-8 sem. hrs. in a foreign language or 6 sem. hrs. in quantitative skills courses (e.g., computer science, statistics, or mathematics) beyond the basic skills mathematics requirement. Where appropriate, this credit may apply to other requirements as well.

FACULTY

John A. Heitmann, *Chairperson*

Professors Emeriti: Beauregard, King, Maras, Mathias, Steiner, Vines

Professors: Alexander, Eid, Morman, Palermo, Rhee

Associate Professors: Amin, Flockerzie, Heitmann, Hitchner, Schweikart, Taylor

Assistant Professors: Bannan, Bednarek, Cadegan, Carlson, Cooley, Hirshfield, Hunt, Smith, Vieson

COURSES OF INSTRUCTION

NOTE: HST 101 or HST 102 or the equivalent is a prerequisite for all other HST courses.

- * HST 101. HISTORY OF WESTERN CIVILIZATION FROM ITS CLASSICAL ROOTS TO 1715: Survey of Western civilization beginning in Antiquity and concluding with the Enlightenment. The course will investigate the social, economic, cultural, political, environmental forces, and events. 3 sem. hrs.
- * HST 102. HISTORY OF WESTERN CIVILIZATION SINCE 1715: Survey of Western Civilization from the 18th century to the present. The course will investigate the social, economic, cultural, political, and environmental forces that shaped European Society and the world in the Modern Period. 3 sem. hrs.
- HST 198. HISTORY HONORS SEMINAR: Study and seminar discussion of selected historical documents dealing with major events and trends in Western Civilization since 1715. Open by permission only to first-year students in the University Honors Program. 3 sem. hrs.
- * HST 251. AMERICAN HISTORY TO 1865: Survey of the development of the American nation from colonial times to 1865; political trends, economic and social foundations of American institutions. 3 sem. hrs.
- * HST 252. AMERICAN HISTORY SINCE 1865: Survey of the development of the nation after the Civil War, stressing social, economic, and political problems. 3 sem. hrs.
- HST 301. RESEARCH SEMINAR: Historical methods, philosophy, and introductory historiography, the last based on the professor's field of specialization. Required for junior history majors. 3 sem. hrs.

- * HST 302. HISTORY OF ANCIENT GREECE: Survey of Greek history and culture from the Bronze Age to Alexander the Great. *3 sem. hrs.*
- HST 303. HISTORY OF THE ROMAN REPUBLIC AND EMPIRE: Survey of Roman history with emphasis on the political, social, and institutional evolution of the Roman state and the organization and structure of the Roman Empire. *3 sem. hrs.*
- * HST 305. MEDIEVAL EUROPE: European history from the 4th to the 15th century, including birth of Middle Ages development of Christianity; Byzantine, Islamic, and Carolingian Empires; feudalism; Crusades; rise of universities; birth of national cultures. *3 sem. hrs.*
- HST 307. RENAISSANCE AND REFORMATION: The development of European history from the 14th to the middle of the 17th century. Emphasis on the economic, political, social, and religious aspects of the Renaissance, Protestant Revolution, and Catholic Reformation. *3 sem. hrs.*
- HST 311. ERA OF ABSOLUTISM, ENLIGHTENMENT: From the later Reformation to the era of the French Revolution: intellectual and cultural development; political, economic, and social trends of the Old Regime. *3 sem hrs.*
- HST 312. FRENCH REVOLUTION AND NAPOLEONIC ERA: Ideological, economic, social, and political background of the Revolution; analysis of the revolutionary governments; the resulting international wars; the rise and fall of Napoleon. *3 sem. hrs.*
- HST 313. RESTORATION, REVOLUTION, AND REACTION—EUROPE 1815-1890: Historical analysis of European nations and peoples emphasizing war and revolutions of the period as well as ideological, scientific, and technological developments. *3 sem. hrs.*
- * HST 314. MODERN EUROPE IN DECLINE, 1890-1945: Historical study of the decline and fall of European civilization from the eve of World War I to the end of World War II, including an examination of political, economic, social, and cultural conditions. *3 sem. hrs.*
- * HST 315. EUROPE IN THE POSTWAR ERA—1945 TO THE PRESENT: Historical survey of domestic and foreign politics, economics, society, and culture in postwar Europe (East and West) from 1945 to the present. *3 sem. hrs.*
- HST 317. HISTORICAL PERSPECTIVES ON WESTERN CHRISTIANITY, 100-1300: Historical analysis of the interaction of Western society and culture with Christianity from the Apostolic Era to the end of the Middle Ages. *3 sem. hrs.*
- HST 318. HISTORICAL PERSPECTIVES ON WESTERN CHRISTIANITY, 1300 TO THE PRESENT: Historical analysis of the interaction of Western society and culture with Christianity from the Renaissance to the present. *3 sem. hrs.*
- * HST 322. HISTORY OF ENGLAND: Major forces and trends in the history of England from early medieval times to the present, including their influence on social history and literature. *3 sem. hrs.*
- HST 325. HISTORY OF RUSSIA TO 1860: History of Kievan Russia and Orthodox Christianity, the Mongol Conquest, the rise of autocracy, reforms and rebellions, revolutionary movements, and the rise of the Empire to the Crimean War. *3 sem. hrs.*

- HST 326. HISTORY OF THE SOVIET UNION AND ITS SUCCESSOR STATES, 1860 TO THE PRESENT: Social, political, and cultural history of Russia from the great reforms of the late empire, through the wars, revolutions, and reconstructions of the Soviet Period, to the present. *3 sem. hrs.*
- HST 328. HISTORY OF EASTERN EUROPE: Survey of the history of the nations lying between Germany and the Soviet Union, the Baltic and Aegean Seas, stressing medieval and early modern background as a foundation of contemporary history. *3 sem. hrs.*
- * HST 330. HISTORY OF EAST ASIA: Brief review of the early historical development of East Asia; study of China and Japan in the 19th and 20th centuries, emphasizing political, religious, cultural, and economic development. *3 sem. hrs.*
- HST 336. HISTORY OF AFRICA TO 19TH CENTURY: Study of African history from the emergence of Africa's ancient kingdoms to the end of the trans-Atlantic slave trade in the nineteenth century. *3 sem. hrs.*
- HST 337. HISTORY OF AFRICA: 19TH CENTURY TO THE PRESENT: Emphasis: colonialism and its impact, the growth of nationalism and the problems of contemporary Africa. *3 sem. hrs.*
- HST 339. HISTORY OF SOUTH AFRICA: Study of South African society with emphasis on historical interpretations of the origins of segregation, economic growth, nationalism, Apartheid, Bantustans, and other issues of contemporary significance. *3 sem. hrs.*
- * HST 340. HISTORY OF SCIENCE: Survey of the development of science from its origins in the ancient world to the present. *3 sem. hrs.*
- * HST 341. HISTORICAL PERSPECTIVES ON SCIENCE, TECHNOLOGY, AND SOCIETY: Historical examination of the interaction of science, technology, and society from the Middle Ages to the present. *3 sem. hrs.*
- * HST 345. IRELAND AND AMERICA: Study of the cultural-historical background of both Scotch-Irish and Celtic Irish immigrants to America and how they influenced the varying reactions of the dominant Anglo-Saxon Protestantism of America. *3 sem. hrs.*
- HST 348. UNITED STATES AND THIRD-WORLD CRISES—HISTORICAL PERSPECTIVES: Analysis of the history of U.S. policies and responses toward major crises in Africa, Asia, Latin America, and the Middle East. *3 sem. hrs.*
- HST 349. TECHNOLOGY AND THE CULTURE OF WAR: Investigation of the role of invention and engineering as it has been related to defense and war throughout the ages, focusing on the interrelationship of policy, strategy, organization, and technology from a global perspective. *3 sem. hrs.*
- * HST 351. HISTORY OF AMERICAN WOMEN: Historical study of the changing roles of women in American society and the struggle for social, political, economic, legal, and educational rights from the 17th century to the present. *3 sem. hrs.*
- * HST 352. HISTORY OF THE AMERICAN FAMILY: Survey of the historical development of American family life from the colonial period to the present. *3 sem. hrs.*
- HST 353. HISTORY OF WOMEN IN EUROPEAN SOCIETIES: Study of the changing roles of women in European societies from the roots of industrialization to the present. *3 sem. hrs.*

- * HST 355. AMERICAN URBAN HISTORY: Historical analysis of community life in American society: the nature and development of small towns, cities, and suburbs; communal experience, social organizations, and political culture. *3 sem. hrs.*
- * HST 357. LATIN AMERICA IN THE TWENTIETH CENTURY: Intensive examination of revolution and reaction in today's Latin America and the implications for those who formulate U.S. foreign policy. *3 sem. hrs.*
- HST 358. SOCIAL AND CULTURAL HISTORY OF LATIN AMERICA: Survey of social and cultural history of Latin America and the Caribbean from pre-Columbian times to the present. Emphasis on the interaction between the European colonizer and the Amerindian and African peoples of the hemisphere. *3 sem. hrs.*
- HST 365. AMERICAN FILMS AS HISTORY: Study of the development of American values, myths, institutions, and perspectives through the use of films as a primary source. *3 sem. hrs.*
- HST 366. AMERICAN LITERATURE AS HISTORY: An examination of American literature as a source of evidence for American history, emphasizing the historical and cultural circumstances that shape literary activity. *3 sem. hrs.*
- * HST 370. ECONOMIC HISTORY OF THE UNITED STATES: Survey of the economic theories and institutions peculiar to the United States with special reference to their influence on social and political development. *3 sem. hrs.*
- * HST 371. HISTORY OF AMERICAN BUSINESS: Historical study of the evolution of modern capitalism from the colonial period to the present. *3 sem. hrs.*
- HST 375. DIPLOMATIC HISTORY OF THE UNITED STATES: Foundations of American foreign policy; the diplomacy of continental expansion through the 19th century; emphasis on diplomatic problems since 1898. *3 sem. hrs.*
- * HST 376. SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES: Social and cultural development of the American people: growth of national spirit, impact of expansion, conflict over slavery, and problems of industrialization and urbanization. *3 sem. hrs.*
- HST 380. HISTORY OF THE AMERICAN INDIAN: Historical and descriptive survey of the native peoples of North America. *3 sem. hrs.*
- HST 391. AMERICAN ARCHITECTURAL HISTORY AND PRESERVATION: A career-oriented course offering a theoretical background in historical preservation and techniques used in identification, research, and recording of historic landmarks worthy of preservation as part of the community heritage. *3 sem. hrs.*
- HST 398. HISTORY OF BLACKS IN THE UNITED STATES, 1526-1900: Study of the saga of black people in the U.S. from 1526 until 1900. *3 sem. hrs.*
- HST 399. HISTORY OF BLACKS IN THE UNITED STATES SINCE 1900: Study of the saga of black people in the U.S. from 1900 to the present. *3 sem. hrs.*
- HST 402. MAIN CURRENTS IN ANCIENT HISTORY: Aspects of the civilizations of the ancient Near East, Greece, and Rome, emphasizing the Hebrew world view and value system, Greek democracy, Roman political and social institutions. *3 sem. hrs.*

- HST 406. INTELLECTUAL AND CULTURAL HISTORY OF MODERN EUROPE: Close analysis of people, ideas, and principal cultural developments from the Renaissance into the 20th century. *3 sem. hrs.*
- HST 408. PEACEMAKING IN THE MODERN WORLD—EUROPEAN DIPLOMACY, 1815 TO 1945: Study of European international relations from 1815 to 1945, with emphasis on the great peace conferences of this period: the Congress of Vienna, the Paris Peace Settlement, and the Yalta and Potsdam conferences. *3 sem. hrs.*
- HST 413. ITALIAN FASCISM: The rise of Italian fascism: a critical historical examination of the origins of European totalitarianism. *3 sem. hrs.*
- HST 416. EUROPEAN MILITARY HISTORY: Survey of warfare on the European continent from classical Greece through World War II emphasizing military institutions, organization, weapons, and campaigns and the role of the military in society. *3 sem. hrs.*
- HST 417. AMERICAN MILITARY HISTORY: Survey of American military affairs, including military, naval, and air campaigns, from early settlement to the present. *3 sem. hrs.*
- HST 419. MODERN FRANCE: French history from the Bourbon Restoration to the present. Emphasis on political, socio-economic, and cultural factors. *3 sem. hrs.*
- HST 421. MODERN GERMANY: Analysis of the development of the German state from 1848 through the period of unification, Second Empire, Weimar Republic, Third Reich, the post-World War II Germanies, to the present. *3 sem. hrs.*
- HST 423. HISTORY OF LONDON: Study of the evolution of London from a small Roman town to the world's first industrial metropolis. Particular attention to social and environmental conditions and the life of the people. *3 sem. hrs.*
- * HST 424. ENGLISH CONSTITUTIONAL AND LEGAL HISTORY: Study of the origins and development of common law and parliamentary government in England from the Saxons to the present. *3 sem. hrs.*
- HST 426. TUDOR-STUART ENGLAND: Study of England from 1485 to 1714: Development of the national state, royal absolutism, and the Reformation; evolution of the constitutional question; diplomacy; social, economic, and cultural aspects of the period. *3 sem. hrs.*
- HST 428. MODERN ENGLAND—1815 TO PRESENT: Development of England as an industrialized nation and as an empire; results of industrialization, urbanization, and loss of empire due to two world wars. *3 sem. hrs.*
- HST 431. NATIONAL CULTURES OF THE SOVIET UNION AND ITS SUCCESSOR STATES: The history of the formation of the Soviet Union and of national and cultural relations between the Russians and their Slavic, Baltic, Caucasus, Central Asian, and Siberian neighbors. *3 sem. hrs.*
- HST 432. RUSSIAN CULTURE AND CINEMA: The history of popular tastes and revolutionary experimentation in film, literature, the arts and daily life in Russia and the Soviet Union from 1900 to the present. *3 sem. hrs.*
- HST 438. THE MIDDLE EAST, NINETEENTH AND TWENTIETH CENTURIES: Survey of the Ottoman Empire, Iran, Egypt, and the modern states of the Middle East, emphasizing the development of nationalism and the area's role in international politics. *3 sem. hrs.*

HST 440. MODERN CHINA AND JAPAN: Study of the economic, political, social, and cultural developments of modern China and Japan from the 18th century to the present. 3 sem. hrs.

HST 445. KOREAN AND VIETNAM WARS: Study of the two most important wars fought by the U.S. after World War II, in the context of America's changing global role. 3 sem. hrs.

HST 450. THE FOUNDING OF AMERICA: Foundations of American nationality and democratic growth under the British colonial system, with special attention to the economic, political, social, and cultural life of the era. 3 sem. hrs.

HST 454. THE AGE OF JEFFERSON AND JACKSON: The range of historical, cultural, social, and political trends traditionally associated with the presidencies of Jefferson and Jackson; the period from the 1790's to the 1850's. 3 sem. hrs.

HST 456. CIVIL WAR AND RECONSTRUCTION: Remote and immediate causes of the Civil War; problems of North and South during the war; consequences of the war; efforts to create a new Union, 1865 to 1877; problems caused by those efforts. 3 sem. hrs.

* HST 460. U.S. LEGAL AND CONSTITUTIONAL HISTORY I: From colonial beginnings through Reconstruction. The first semester of a year's sequence that analyzes the major developments in American legal and constitutional thought and institutions. Emphasis on the relationship between law and lawyers and America's economic, social, and political development. 3 sem. hrs.

HST 461. U.S. LEGAL AND CONSTITUTIONAL HISTORY II: From the Gilded Age to the present. Continuation of HST 460. Prerequisite: HST 460. 3 sem. hrs.

* HST 466. HISTORY OF SCIENCE, TECHNOLOGY, AND THE MODERN CORPORATION: Historical study of the emergence of 20th-century science-based industry. 3 sem. hrs.

* HST 467. HISTORY OF CIVIL ENGINEERING: Historical study of the development of civil engineering from its origins in the ancient world to the present. 3 sem. hrs.

HST 468. HISTORY OF AMERICAN AVIATION: This course will examine the influence of aviation on the American culture, economy, and military. It will also highlight the development of aviation/aerospace technology. 3 sem. hrs.

HST 470. HISTORY OF THE COLD WAR: A study of the origins and evolution of the Cold War from 1917 to the present. 3 sem. hrs.

HST 473. THE AGE OF EXCESS AND REFORM—UNITED STATES, 1877-1920: Development of the U.S. as an urban-industrial nation and world power; efforts to maintain traditional political, social, and economic forms and values amidst rapid change. 3 sem. hrs.

HST 476. BETWEEN THE WARS: Intensive study of chief facets of United States history from 1919 to 1941, including Normalcy, the Depression, the evolving New Deal, and the approach of World War II. 3 sem. hrs.

HST 477. CONTEMPORARY AMERICAN HISTORY: The immediate background of contemporary political, social, and economic problems: impact of World War II on the U.S., Cold War, New Frontier, Johnson Administration, and beyond. *3 sem. hrs.*

HST 479. HISTORY OF HIGHER EDUCATION IN AMERICAN SOCIETY: Critical historical examination of the evolution of American higher education from the antebellum college to the modern university. *3 sem. hrs.*

HST 482. HISTORY OF MEXICO: Mexican History since 1820. Origins of the revolution of 1910 and its developments to the present; Mexico's struggle for democracy; diplomatic and cultural relations between Mexico and the U.S. *3 sem. hrs.*

HST 484. CARIBBEAN SINCE 1801: Study of the cultural, social, economic, and political history of the islands and the northern shore of South America in modern times, stressing areas that have gained independence or autonomy. *3 sem hrs.*

HST 490. STRATEGIES OF HISTORIANS: A seminar which investigates the various intellectual processes by which historians have approached particular questions. A wide sampling of the works of representative historians is supplemented by analysis of their methodologies and philosophies of history. Prerequisite: HST major or completion of 12 sem. hrs. of history; permission. *3 sem. hrs.*

HST 491. SENIOR SEMINAR: A reading seminar concentrating on one historical topic for detailed analysis. May be repeated as topics change. Check department for prerequisites. Permission of chairperson required. *3 sem. hrs.*

HST 492. SENIOR HONORS SEMINAR: A reading seminar concentrating on one historical topic for detailed analysis. May be repeated as topics change. Check department for prerequisites. Permission of chairperson required. *3 sem. hrs.*

HST 495. INTERNSHIP: Practical and professional experience through work with approved organizations such as historical societies, architectural preservation boards, and business firms. Prerequisite: Permission of supervising instructor. *3 sem. hrs.*

HST 496. INDEPENDENT STUDY: The study of a special topic to be mutually selected by the student and a history professor. Prerequisite: Permission of chairperson. May be repeated once. *1-6 sem. hrs.*

HST 497. HONORS TUTORIAL: The study of a special topic to be selected by the instructor. Applicants will be admitted on the basis of academic record. May be repeated once. *1-6 sem. hrs.*

HST 499. TOPICS IN HISTORY: Specific subtitles and descriptions to be announced in the composite and posted in the History Department office. *1-6 sem. hrs.*

*General Education course. See Chapter V.

HUMAN ECOLOGY (HEC)

Human ecology is the study of interrelationships within the family and between the family and individuals and the environment. It is concerned with achieving, maintaining, and enhancing family and individual well-being in daily life. It is a diversified field integrating many disciplines.

The Bachelor of Science with a major in Human Ecology is currently awarded in two areas: Human Ecology (General) and Human Ecology (Food and Nutrition).

A student wishing to choose human ecology as an area of minor concentration must take 12 semester hours of 300-400-level courses in consultation with the chairperson of the Department of Human Ecology. The following specific minors are available:

Human Ecology—Fashion Merchandising: HEC 314, 360, 362, 404

Human Ecology—Consumer Science: HEC 321, 331, 341, elective

Human Ecology—Family and Child Development: HEC 310, 318, 325, 429, 436 or 470

Human Ecology—Food Systems: HEC 200, 200L, 303, 304, 308, 407

Human Ecology—Food and Nutrition: HEC 300, 300L, 303, 310, 341

HUMAN ECOLOGY (GENERAL)

Students following the General Human Ecology Program have four options for concentration. Each student will follow the basic curriculum, which provides an overview of the discipline, and choose one of the following:

- I. Fashion Merchandising (HEM)
- II. Consumer Science (HES)
- III. Family and Child Development (HEL)
- IV. Interior Design (HEI)

PROGRAM S7: BACHELOR OF SCIENCE WITH A MAJOR IN HUMAN ECOLOGY (GENERAL) (HEG)¹

	<i>Semester Hours</i>
Human ecology	37-38
HEC 103, 105, 303, 306 or 321, 318, 320, 360, elective	21
Concentration requirements	
I. HEM--HEC 314, 341, 362, 404, 436 and/or 470	16
(A minor in MKT is required.)	
II. HES--HEC 331, 341, 362, 436 and/or 470, elective	16
(Support courses in CRJ, ECO, MKT, POL, SOC are required.)	
III. HEL--HEC 310 or 403, 325, 329, 417, 429, 436 and/or 470	16
(Support courses in EDT, PSY are required.)	
IV. HEI--HEC 314, 330, 340, 350, 395, 396, 470	17
(Support courses are required: VAF 104, 112, 216; VAH 274, 275; VAI 305, 308.)	
Mathematics-management information systems:	
MTH 207, elective (MTH 102, 204, 205 excluded)	6
Natural science: 2 courses—lectures with laboratories ¹	8

Social and behavioral sciences	6
Philosophy and religious studies	12
Humanities	9
Communication skills: ENG 101-102 or 114 or 198; ENG elective; CMM 101	3-12
First-year experience: ASI-150	0-1
General Education courses and academic electives to total at least	120

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

HUMAN ECOLOGY (FOOD AND NUTRITION)

The Bachelor of Science with a major in human ecology (Food and Nutrition) allows for the following two areas of concentration:

- Program S8: Bachelor of Science with a Major in Human Ecology (Food and Nutrition—ADA Plan V) (HEA)
- Program S8A: Bachelor of Science with a Major in Human Ecology (Food and Nutrition—Nutrition) (HEN)

PROGRAM S8: BACHELOR OF SCIENCE WITH A MAJOR IN HUMAN ECOLOGY (FOOD AND NUTRITION—DIDACTIC PROGRAM IN DIETETICS) (HEA)¹

This program leads to a Bachelor of Science in preparation for a required post-baccalaureate dietetic internship or a preprofessional practice program. Upon successful completion of the post-baccalaureate experience, graduates are eligible to become active members of the American Dietetic Association and to sit for the registration examination to become registered dietitians.

Acceptance into a dietetic internship or preprofessional practice program is very competitive. Post-baccalaureate programs maintain increasingly high admission standards. Acceptance is based on the grades of major and support courses, recommendation letters, work experience, extracurricular activities, motivation, and knowledge of the profession. A grade point average above 2.9 in both the major and support courses is recommended. At the end of the second year the Advisory Committee evaluates all students enrolled in the American Dietetic Association Didactic Program in Dietetics (S8). Any student whose cumulative average after two years of study is below 2.8 will be advised to consider changing his or her major.

Students generally make formal application in the second semester of the senior year to dietetic internships and/or preprofessional practice programs. Selection of a dietetic internship is made through computer matching.

Students enrolled in the American Dietetic Association Didactic Program in Dietetics do not practice as student dietitians in any observation experience. Therefore, no professional liability insurance is required.

Additional undergraduate costs may include a laboratory coat and public transportation fares to an observation site. Students are encouraged to join the American Dietetic Association as affiliate members at \$36.00 per membership year (June 1 to May 31).

	<i>Semester Hours</i>
Human ecology	40
HEC 200, 200L, 303, 304, 308, 318, 357, 401, 402, 403, 405, 407, 460, 490, food elective	
Natural science: BIO 151, 152, 152L, 403, 411L; CHM 123, 123L, 124, 124L, 313, 313L, 314, 314L, 420	30
Mathematics-management information systems:	
MTH 207, elective (MTH 102, 204, 205 excluded)	6
ACC 301	3
MGT 311, 314	6
Social and behavioral sciences	12
Philosophy and religious studies	12
Humanities	9
Communication skills: ENG 101-102 or 114 or 198; 370 or 272 or 372; CMM 101	3-12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	121-131

¹See Distribution Table for All Bachelor of Science Programs and Chapter V for General Education Requirements.

**PROGRAM S8A: BACHELOR OF SCIENCE WITH A MAJOR IN
HUMAN ECOLOGY (FOOD AND NUTRITION—
NUTRITION) (HEN)¹**

Program S8A: The nutrition program is a preparatory study of nutrition for graduate work and research.

	<i>Semester Hours</i>
Human ecology	30
HEC 200, 200L, 303, 318, 327, 357, 401, 403, 410, 410L, 436, 451, 460	
Natural science: BIO 151, 152, 152L, 403, 411L; CHM 123, 123L, 124, 124L, 313, 313L, 314, 314L, 420	30
Mathematics-management information systems:	
MTH 207, elective (MTH 102, 204, 205 excluded)	6
Social and behavioral sciences	6
Philosophy and religious studies	12
Humanities	9
Communication skills: ENG 101-102 or 114 or 198; 370 or 372, CMM 101	12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See Distribution Table for All Bachelor of Science Programs and Chapter V for General Education Requirements.

FACULTY

Julia A. Palmert, *Chairperson*

Professor Emerita: Schroeder

Assistant Professors: De Luca, Dellwo, Palmert

Part-time Instructors: Cosenza, Freeman, Ganote, Geiger, Kuehnl, Leakas, Miller, Rethman, Schroer, Sebek, Stoesz, Stoia, West, Voisard

COURSES OF INSTRUCTION

HEC 103. INTRODUCTION TO HUMAN ECOLOGY: Study of the role and scope of human ecology with emphasis on professional development. *1 sem. hr.*

HEC 105. AESTHETICS OF HUMAN ECOLOGY: Study of the principles and elements of art in order to develop sensory awareness and sensitivity in response to the environment, and a greater appreciation of art, design and aesthetics. *3 sem. hrs.*

HEC 200. INTRODUCTORY FOODS: Study of scientific principles applied to the processing and preparation of food to maintain nutritional quality and aesthetic value. Corequisite: HEC 200L. *2 sem. hrs.*

HEC 200L. INTRODUCTORY FOODS LABORATORY: Course to accompany HEC 200 lecture. Two 2-hour periods each week. Corequisite: HEC 200. *2 sem. hrs.*

HEC 202. INTRODUCTION TO DIETETICS: To acquaint the student interested in a career in dietetics with the profession of dietetics and the role and responsibilities of the dietitian. Primary emphasis on dietetics practice. *1 sem. hr.*

HEC 203. ELEMENTARY NUTRITION: Course for the nonmajor interested in food and nutrition. Emphasis on basic nutrition as it applies to the individual. Contemporary issues pertaining to nutrition. *2 sem. hrs.*

HEC 300. CULTURAL ASPECTS OF FOOD: Study of the relationship among consumers, their culture and society, and their food; the historical evolution of food; socioeconomic influences on foodways. Open to the University. Corequisite: HEC 300L. *2 sem. hrs.*

HEC 300L. CULTURAL ASPECTS OF FOOD LABORATORY: Course to accompany HEC 300 lecture. One 3-hour period each week. Corequisite: HEC 300. *1 sem. hr.*

HEC 303. NUTRITION AND HEALTH: Study of the nutrient needs of humans and of their choices of foods as modified by socioeconomic, cultural, and life cycle factors. *3 sem. hrs.*

HEC 304. QUANTITY FOOD PRODUCTION: Study of quantity food service systems. Coordinated working experience. Prerequisites: HEC 200, 200L. *3 sem. hrs.*

HEC 305. GLOBAL NUTRITION: A study of the global nature of our food systems focusing on the impact of our food decisions on the environment, agricultural production and processing, world population relative to food supply, hunger, biotechnology, and safety of our food supply. Open to the University. *3 sem. hrs.*

HEC 306. FAMILY MANAGEMENT: A systems approach to the study of family management and the use of resources (time, energy, money, and material goods) to promote the development of home and family life from the consumer standpoint. Open to the University. *3 sem. hrs.*

- HEC 308. INSTITUTIONAL BUYING: Application of principles for determining needs and procuring and storing foods in quantity. Institutional equipment selection, maintenance, and layout. *3 sem. hrs.*
- HEC 309. HOUSEHOLD EQUIPMENT: Study of the principles of selection, construction, operation, and care of household equipment and its relation to the well being of the family. Prerequisites: HEC 200, 200L or equivalent. *3 sem. hrs.*
- HEC 310. CHILD NUTRITION: Nutrition as it applies to the optimal and critical growth of children, including the relationships among the physical, mental, socio-economic, and emotional factors of development. *3 sem. hrs.*
- HEC 314. TEXTILES: Study of the natural, thermoplastic, and nonthermoplastic fibers, including yarns, structures, and finishing of fabrics for their use and care. *3 sem. hrs.*
- * HEC 318. FAMILY LIVING: Study of the family as a basic unit of society, the purpose and function of marriage and the family, elements contributing to the success or failure of a marriage, and contemporary issues facing the family. *3 sem. hrs.*
- HEC 320. FAMILY HOUSING: Topics include housing constraints, needs, alternatives, environment, finance, and government involvement in housing. Open to the University. *2-3 sem. hrs.*
- * HEC 321. CONSUMER ECONOMICS: The economic interrelationship of the political, business, and household systems from the consumer point of view. The use of economic tools in identifying ways to improve the economic welfare of the consumer. Open to the University. *3 sem. hrs.*
- HEC 323. DEMONSTRATION TECHNIQUES: Study of the principles and techniques of lecture-demonstrations. Emphasis on student lecture-demonstrations. *2 sem. hrs.*
- HEC 325. CHILD DEVELOPMENT: Developmental study of stages and principles from infancy through age eight. Observation and work in laboratory school arranged. Open to the University. *3 sem. hrs.*
- HEC 327. EXPERIMENTAL FOODS: Comparative and experimental approach to food preparation as it affects quality. Introduction to the standard experimental procedures leading to independent project of student's choice. Prerequisites: HEC 200, 200L. Corequisite: HEC 327L. *2 sem. hrs.*
- HEC 327L. EXPERIMENTAL FOODS LABORATORY: Course to accompany HEC 327 lecture. One 3-hour laboratory period each week. Corequisite: HEC 327. *1 sem. hr.*
- HEC 329. CHILD DEVELOPMENT PRACTICUM: Supervised experience in working with preschool children and their parents. Laboratory school participation arranged. Two hours of lecture and 3 hours of work experience each week. Prerequisite: HEC 325. *3 sem. hrs.*
- HEC 330. INTERIOR DESIGN I: Introduction to the process of interior design with emphasis on design principles and elements, space planning, lighting, and furniture arrangement and selection. *3 sem. hrs.*

- HEC 331. MONEY MANAGEMENT: Study of the management of personal and household financial resources and allocation of income to various consumption activities. Open to the University. *3 sem. hrs.*
- HEC 340. INTERIOR DESIGN II: An overview of architectural details, background treatments, accessories, and building systems. Design projects developed through programming, space planning, and graphic communications. Prerequisites: HEC 314, 330, 395. *3 sem. hrs.*
- * HEC 341. CONSUMERS AND SOCIAL ISSUES: Various issues related to the social aspects of consumerism analyzed within the context of business, government, and consumers, emphasizing the interrelationships among the three sectors. Open to the University. *3 sem hrs.*
- HEC 350. INTERIOR DESIGN III: Introduction to the business aspect of interior design, barrier-free design, and developing design solutions by space analysis and planning to meet user needs. Prerequisites: HEC 340, 396, VAI 308. *3 sem. hrs.*
- HEC 351. CONSUMER POLICY: This course will address the consumer policy process and some major factors affecting this process. Sources of policy-relevant information and methods for impacting the process will be studied. The student will apply the information learned to issues specific to his/her major. Open to the University. *2 sem. hrs.*
- HEC 357. FOOD MICROBIOLOGY: Study of microorganisms that are related to food-borne illnesses, food preservation, and food sanitation. Prerequisites: BIO 101-102. Corequisite: BIO 411L. *3 sem. hrs.*
- HEC 360. CLOTHING SELECTION AND CONSUMPTION: Study of clothing with emphasis on social, psychological, and economic relationships. Open to the University. *3 sem. hrs.*
- HEC 362. TEXTILE AND APPAREL INDUSTRIES: Study of domestic and international textile and apparel industries from a historical perspective; cultural and economic influences; current issues. *3 sem. hrs.*
- HEC 395. BASIC DRAFTING: Study and application of basic principles and techniques for communicating space and construction in a graphic form appropriate for interior designers. *2 sem. hrs.*
- HEC 396. INTERIOR ENVIRONMENTS: Study and application of basic principles and techniques of the integration of interior systems such as plumbing, heating, electricity, lighting, and acoustics for interior designers. Prerequisite or corequisite: HEC 395. *2 sem. hrs.*
- HEC 401. ADVANCED NUTRITION: Extension of the student's knowledge of the science of nutrition, stressing the metabolism of food constituents and recent advances in the field of nutrition. Prerequisites: HEC 303, BIO 403, CHM 420. *3 sem. hrs.*
- HEC 402. NUTRITIONAL THERAPY: Study of human pathophysiology and nutritional assessment and modification in relation to the effective prevention and treatment of disease. Prerequisites: CHM 420, HEC 303, or permission of instructor. *3 sem. hrs.*

HEC 403. COMMUNITY NUTRITION: Study of public health nutrition programs and their services to the community. An opportunity to explore alternate methods of health care delivery and preventive measures. *2 sem. hrs.*

HEC 404. FASHION MERCHANDISING: Study of the movement of fashion, the promotion of fashion; advertising and display, trends in retail fashion distribution. *3 sem. hrs.*

HEC 405. INSTRUCTIONAL METHODS FOR HUMAN ECOLOGY: Instructional planning and developing media, methods, and materials for teaching human ecology subject matter. *3 sem. hrs.*

HEC 407. FOOD SERVICE SYSTEMS MANAGEMENT: Study of management theories as applied to institutional and commercial food service operations. *3 sem. hrs.*

HEC 410. NUTRITIONAL BIOCHEMISTRY: Biochemical and clinical methods for the study of nutrition; evaluation and interpretation of the data in relation to various nutritional states. Prerequisite: CHM 420. Corequisite: HEC 410L. *1 sem. hr.*

HEC 410L. NUTRITIONAL BIOCHEMISTRY LABORATORY: Course to accompany HEC 410 lecture. One 3-hour period each week. Corequisite: HEC 410. *1 sem. hr.*

HEC 417. INFANT AND TODDLER PROGRAM MANAGEMENT: Study of program curriculum design, implementation, and management that is developmentally age-appropriate for children from birth to thirty months. Observation and work in laboratory school arranged. *3 sem. hrs.*

HEC 429. MANAGEMENT OF PRE-SCHOOL PROGRAMS: Thorough examination of philosophies and program models with implication for planning, administering, and evaluating pre-school programs. *2 sem. hrs.*

HEC 430. ISSUES IN INTERIOR DESIGN: Investigation of the elements of housing and interiors from economic, functional, and aesthetic points of view. Topics may vary from term to term. *1-3 sem. hrs.*

HEC 436. INDEPENDENT STUDY: A course to allow students to concentrate on major areas of study. Original investigation, independent conferences, and reports are required. Prerequisite: Approval of department chairperson and instructor. *1-6 sem. hrs.*

HEC 437. MEAL MANAGEMENT: Study of the influences on food patterns resulting from the relationship between the economy and the consumer. Open to the University. Corequisite: HEC 437L. *2 sem. hrs.*

HEC 437L. MEAL MANAGEMENT LABORATORY: Course to accompany HEC 437 lecture. One 2-hour period each week. Corequisite: HEC 437. *1 sem. hr.*

HEC 451. ADVANCED NUTRITIONAL BIOCHEMISTRY: Comprehensive study of the role of nutrients in the control of body metabolism. Prerequisites: CHM 420, HEC 401. *3 sem. hrs.*

HEC 455. PHARMACOLOGY—NUTRITION IMPLICATIONS: Study of the effect of drug therapy on the patient's body processes and nutritional status, including indications, dosage, cautions, side effects, monitoring, and drug-food interactions. *3 sem. hrs.*

HEC 460. SEMINAR IN FOOD AND NUTRITION: Survey, discussion, and oral presentation of selected topics from current food and nutrition literature. May be taken twice. *1 sem. hr.*

HEC 470. HUMAN ECOLOGY LABORATORY INTERNSHIP: Practical field experience in the student's major area of study. Prerequisite: Permission of department chairperson. Grade option 2. *1-6 sem. hrs.*

HEC 490. TOPICS IN HUMAN ECOLOGY: Presentation and discussion of topics in a specialized area of human ecology. Can be repeated under special circumstances. *1-6 sem. hrs.*

*General education course. See Chapter V.



HUMANITIES STUDIES (HMS)

No major or minor concentration is available. See also Classics (CLA).

INTERDEPARTMENTAL COMMITTEE

Gordon A. Neufang (Languages), *Committee Chairperson*
 Conard (Languages), Gilvary (Communication), K. Marre (English),
 Zembaty (Philosophy)

COURSES OF INSTRUCTION

HMS 201. THE GREEK EXPERIENCE: The development of Greek ideas and ideals in the literature, art, and archaeology of ancient Greece. Readings (in English translation) in Homer, the lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, and Plato. *3 sem. hrs.*

HMS 202. OUR ROMAN HERITAGE: Study of Roman contributions to the modern world as evidenced in the literature, art, and archaeology of ancient Rome. Readings (in English translation) in Plautus, Lucretius, Catullus, Cicero, Vergil, Horace, Livy, Ovid, and Seneca. *3 sem. hrs.*

HMS 301. CIVILIZATION: Interdisciplinary course using Sir Kenneth Clark's Civilization film series as the basis for exploring Western thought and culture from the early Middle Ages to the present; readings pertinent to Western civilization. Team-taught. *3 sem. hrs.*

HMS 315. CHINESE CULTURE: Survey of the major elements of Chinese culture from ancient times to the present with emphasis on philosophy, literature, and art. Lectures, discussions, and readings are in English. *3 sem. hrs.*

HMS 360. LATIN AMERICA THROUGH LITERATURE: Selected readings in contemporary Latin American literature (in translation) reflecting current issues. Conducted in English. *3 sem. hrs.*

* HMS 395. CONTEMPORARY INTELLECTUAL TRENDS, EUROPE: Multi-disciplinary course in art, film, literature, music, and philosophy, concentrating on the post-World War II period. *6 sem. hrs.*

*General education course. See Chapter V.

ASI

INTERDISCIPLINARY STUDIES (ASI)

The College of Arts and Sciences constantly strives to present significant, innovative learning experiences to its students. Courses and programs or activities that are interdisciplinary or multidisciplinary and therefore not offered through the traditional department structure are possible through authorization by the Academic Affairs Committee of the College.

All ASI credit applies toward the student's general elective requirements, but a student may petition the chairperson of a department to apply credit to specific departmental requirements.

Additional information is available in the Office of the Dean of the College of Arts and Sciences.

COURSES OF INSTRUCTION

- * ASI 101-102. DEVELOPMENT OF PHILOSOPHY AND RELIGION IN THE WEST I, II: Survey of major issues in Western philosophy and religious thought from ancient Hebrew and Greek times to the present. Parallel to the first-year history and English courses in CORE. (Completion of both courses fulfills the PHL 103 requirement.) Required of and restricted to students in CORE. *3 sem. hrs. each*

ASI 150. INTRODUCTION TO THE UNIVERSITY: Examination of the values that form academic progress in the College; discussion of strategies for taking full advantage of academic opportunities and integrating formal and experiential learning. *1 sem. hr.*

ASI 201. PERSONAL VALUE DEVELOPMENT: Exploration of the conceptual framework of value development. Application of concepts in such personal decision making as educational and career planning, developing satisfying personal relationships, and using time productively. *2 sem. hrs.*

ASI 214. DRAMATIC KINESICS IN A FOREIGN LANGUAGE: Corrective work in foreign language sound and gesticulatory patterns accomplished by enacting scenes from a play in the language. May be repeated in one language in successive stages of difficulty up to 3 sem. hrs. Registration may be retroactive. Prerequisites: Basic instruction in the language; permission of instructor. *1 sem. hr.*

ASI 228. FOCUS ON WOMEN: Interdisciplinary seminar on the changing roles and status of women. Requirement for women's studies minors. May be repeated since topics change yearly. *1 sem. hr.*

- * ASI 298. HONORS SOCIAL SCIENCE SEMINAR: Interdisciplinary study of a contemporary topic that has been the focus of considerable investigation by at least two social science disciplines. Required of and restricted to first-year students enrolled in the University Honors Program. Prerequisite: Permission of program director. *3 sem. hrs.*

* ASI 299. HONORS SCIENCE SEMINAR: Examination of the nature of scientific thought, research, and experimentation in one or more of the physical and biological sciences; the relationship between society and scientific inquiry. Required of and restricted to sophomores in the University Honors Program. Prerequisite: Permission of program director. *3 sem. hrs.*

ASI 305. APPALACHIAN STUDIES: Appalachian history and its influence on the present; problems of recent events; influence of local government and federal programs on the people; economic problems of underprivileged people and the future of industrial development; ecology of the region; literature, art, and music; psychology of social change and community development in the underdeveloped regions; health and mental health; problems of the Appalachian migrant. *3 sem. hrs.*

ASI 395. INTERNSHIP IN SCIENCE: Application of scientific knowledge to specific projects in an approved organization. Applied-knowledge experience open to juniors and seniors as a supplement to their science curriculum. Permission of the internship director in the student's major department is required. *1-3 sem. hrs.*

ASI 398. SPECIAL TOPICS IN INTERNATIONAL DEVELOPMENT: Study of political, philosophical, historical, and economic questions associated with developing countries. Topics determined by an interdisciplinary team. Required for the minor in international development. Second term. *3 sem. hrs.*

ASI 399. INTERDISCIPLINARY TOPICS: Study of special topics or themes of an interdisciplinary nature. Specific subtitles announced in composite. May be repeated as topics change. *3 sem. hrs.*

ASI 448. SEMINAR IN FAMILY DEVELOPMENT: Interdisciplinary examination of issues relating to family relationships, changes in family life, and the social context of family life. Required of family development minors. Prerequisite: 12 sem. hrs. completed in the minor. *1 sem. hr.*

ASI 498-499. HONORS THESIS: Selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to students in the University Honors Program with permission of the program director. *6 sem. hrs.*

*General education course. See Chapter V.

IND

INTERNATIONAL DEVELOPMENT STUDIES (IND)

The interdisciplinary minor in international development studies provides students of all majors with an understanding of Third World development as a perspective from which to view their majors. It gives students the cultural, historical, and political sensitivity required for working effectively in the interest of developing countries. Students who pursue the minor are encouraged to participate in the immersion experience, an opportunity to do independent study in their major disciplines in a developing country. Competence in speaking an appropriate foreign language is expected.

The minor in international development studies consists of 15 semester hours of courses, of which 12 semester hours are upper divisional (300-level or above).

These are distributed as follows:

	<i>Semester Hours</i>
Required courses	6
ASI 398 Special Topics in International Development	
ANT 150 Cultural Anthropology	
Anthropology elective (Choose one.)	3
ANT 310 Culture and Personality	
ANT 315 Language and Culture	
ANT 352 Cultures of Latin America	
ANT 406 Cultural Change	
History elective (Choose one.)	3
HST 348 United States and Third World Crises	
HST 357 Latin America in the Twentieth Century	
HST 482 History of Mexico	
HST 484 The Caribbean Since 1801	
Political science elective (Choose one.)	3
POL 323 Comparative Politics: Latin America	
POL 324 Comparative Politics: Southern Asia	
POL 325 Comparative Politics: The Middle East	
POL 457 Political Change in the Third World	

Other appropriate courses may be substituted with the approval of the director. Students wishing to qualify for the international development studies minor must declare this intention to the director and their respective deans by the mid-point of the junior year.

INTERNATIONAL DEVELOPMENT STUDIES ADVISORY COMMITTEE

- Philip Aaron, S.M., *Director, International Development Studies*
- Bregenzer (Sociology, Anthropology, and Social Work), Geiger (Biology),
- Karns (Political Science), Lapitan (Political Science), Payne (Philosophy),
- Taylor (History)

INTERNATIONAL STUDIES (INS)

International studies is a multidisciplinary major designed to meet the needs of students interested in acquiring a broadly based international perspective for eventual careers in fields such as government service, international business, international law, teaching, and social service. The curriculum includes a core of required courses, a concentration (East Asia, Latin America, Russia and Eastern Europe, Western Europe, global development), a foreign language requirement, and additional hours of course work drawn from the multidisciplinary elective pool.

Majors are also required to include an international and/or cross-cultural experiential component in their program. This may be satisfied through study abroad, internship, immersion, service, or work. The Center for International Programs assists students in identifying the most appropriate opportunities.

No minor in international studies is available.

**PROGRAM A7: BACHELOR OF ARTS WITH A MAJOR IN
INTERNATIONAL STUDIES (INS)¹**

	<i>Semester Hours</i>
Requirements for the major	70
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts Programs and Chapter V for General Education Requirements. Humanities and Social Sciences breadth requirements are fulfilled through requirements for the major.

The major in international studies consists of a minimum of 70 semester hours of coursework distributed as follows:

Required courses (30 semester hours)

ECO 203,204,450	HST 102	
ENG 272	POL 202, 214, 410, 455	
GEO 103		

Concentration (21 semester hours)

Each major must select one of the following five concentrations, which must correspond with the foreign language chosen.

East Asia: HST 330; POL 328 or 329; and any five of the following courses:

ECO 460; HMS 315; HST 440, 445; PHL 355; POL 407; REL 201

Latin America: ANT 352; HST 358, REL 464 (choose one); ASI 398, ECO 460, POL 457 (choose one); HST 357; HST 482, HST 484 (choose one); POL 323; POL 404; SPN 342

Russia and Eastern Europe: HST 314, HST 315 (choose one); HST 325; HST 326; HST 328; POL 321; POL 409; HST 431, HST 432 (choose one)

Western Europe: HST 314, HST 315; HST 419, HST 421, HST 428 (choose two); HMS 395 or choice of two—ENG 357, ENG 358, PHL 359, PHL 360; POL 320

Global Development: ANT 406, SOC 328 (choose one); ASI 398; BIO 395; ECO 460; HST 335, HST 339, HST 357, HST 358 (choose one); POL 457; REL 201, REL 202, REL 376, REL 464, REL 472 (choose one)

Language (6-20 semester hours)

A student majoring in international studies must complete at least 6 semester hours of upper-level foreign language instruction in one of the following languages: French, German, Italian, Russian, Spanish. Foreign language literature in translation courses do not fulfill this requirement. Also, these 6 semester hours may not duplicate upper-level foreign language courses taken to fulfill the requirement of 12 semester hours drawn from the elective pool.

Experiential Requirement (1-3 semester hours)

INS majors must include an international and/or cross-cultural experiential component in their program prior to graduation. This requirement can be satisfied through participation in a study abroad program, an internship, immersion, service, or work experience. The experience must be for a minimum of four weeks. The requirement is satisfied by taking either INS 395 or INS 495.

Electives (12 semester hours)

The remaining 12 semester hours are to be chosen from the other four concentrations or from the following elective pool:

ANT	315, 351, 406
BAI	301
CMM	414
CRJ	336, 436
ECO	461
ENG	205, 306, 356, 357, 358
FIN	450
HEC	305
HMS	360
HST	311, 312, 313, 322, 325, 335, 339, 348, 349, 358, 375, 406, 408, 413, 416, 423, 424, 438, 470, 482, 484
INS	390, 399, 495
MGT	430
MKT	440, 445
PHL	317, 320, 321, 323, 327, 332, 350, 351, 352, 353, 358, 359, 360
POL	325, 327, 331, 335, 406, 408, 437, 471
PSY	445
REL	201, 202, 374, 406, 463, 472
SOC	328, 350
VAH	201, 202, 203, 350, 360, 382, 450, 460, 470, 471, 480

Any upper-level foreign language course (French, German, Italian, Russian, Spanish)

With permission, other courses including special topics courses and independent study

INTERNATIONAL STUDIES POLICY COMMITTEE

Margaret P. Karns, *Director, Center for International Programs*
 Aaron (International Studies), Bilocerkowycz (Political Science),
 Bregenzer (Sociology, Anthropology, and Social Work), Flockerzie (History),
 O'Meara (Languages).

COURSES OF INSTRUCTION

INS 390. MODEL UNITED NATIONS: Examination of the work and procedures of the United Nations and its constituent bodies, study of various international issues and policies of member states, as well as of parliamentary diplomatic practices such as caucusing, resolution writing, and speech making in preparation for participation in Model United Nations simulations. Prerequisite: Permission of instructor.

1 sem. hr.

INS 395. INTERNATIONAL EXPERIENCE: Orientation for and evaluation of study abroad, internship, immersion, work or service experience in a foreign country, organization involved in international activities, or a cross-cultural setting in the United States. Grading option two only.

1 sem. hr.

INS 399. INDEPENDENT STUDY: Independent reading and research on an interdisciplinary topic in international studies chosen by the student in consultation with one or more faculty members. May be repeated. Prerequisite: Permission of program director.

3 sem. hrs.

INS 495. INTERNATIONAL STUDIES INTERNSHIP: Practical, supervised experience with an approved organization dealing with international affairs. Repeatable up to six hours. Prerequisite: Permission of program director.

1-6 sem. hrs.



LNG

LANGUAGES (LNG)

The Department of Languages offers courses in modern languages—French, German, Italian, Russian, and Spanish—as well as in the classical language Latin. The language programs include instruction in the communicative skills, literature, and culture. The department also offers some literature and culture courses taught in English (see CLA and HMS) and Dramatic Kinesics in a Foreign Language. (See ASI.)

The Department of Languages conducts one-month study programs especially for language students in Spain, Mexico, Germany, and France. Language courses may also be offered through the Interdepartmental Summer Study Abroad Program. (See Chapter X.)

Students in B.A. programs can acquire teacher certification in languages through the E11 program. (See EDT.) For details, consult the department chairperson.

Advanced placement based on high school study or study in foreign countries is regularly awarded. In general, one year of high school language study is equal to one term of study at the University; four years of high school language study normally prepares one for upper-level (300-400) language courses. For assistance with placement, consult the department.

A language major may choose a major in a single language (French, German, Spanish) or a composite major in two languages.

A student may minor in French, German, Italian, Russian, or Spanish by completing 12 semester hours of upper-level (300-400) courses.

PROGRAM A8: BACHELOR OF ARTS WITH A MAJOR IN LANGUAGES (LNG)¹

	<i>Semester Hours</i>
Languages	24
<i>Major in a Single Language</i> (at least 24 sem. hrs. at the 300-400 level): A major in a modern language must take 311 or 312, 321 or 322 ² , and at least two courses, including at least one in literature, from the following: 341, 342, 360, 361, 362, 381, 450, 451, 471, 472.	
<i>Composite Major in Languages</i> (at least 24 sem. hrs. at the 300-400 level distributed between two languages): Courses must include at least 3 sem. hrs. of literature.	
Communication skills	0-9
Humanities	18
Philosophy and religious studies	12
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²In Italian take ITA 313 and 314.

FACULTY

Andria Chiodo, *Chairperson*

Professors: Conard, McKenzie

Associate Professors: Neufang, O'Meara, Romaguera

Assistant Professors: Castello-Lamas, Chiodo, Krugh, Peñas-Bermejo

Lecturers: Bredestege, Fogel, E. Hatch, E. L. Hatch

COURSES OF INSTRUCTION

Placement in a course is determined on the basis of a student's background and proficiency in the language. Therefore the prerequisite for each course indicates the proficiency level required for enrollment.

FRENCH

FRN 103-104. ELEMENTARY FRENCH I, II: Basic elements of the French language with emphasis on audio-oral skills. Language laboratory required. Prerequisite: None for FRN 103; FRN 103 for 104. *4 sem. hrs. each*

FRN 201-202. INTERMEDIATE FRENCH I, II: Development of listening, speaking, reading, and writing skills. Language laboratory required. Prerequisites: FRN 104 for 201; FRN 201 for 202. *3 sem. hrs. each*

FRN 226. BASICS OF COMPUTER FRENCH: Introduction to French computer vocabulary and expressions and to the literature and status of the information sciences in France. Translation of articles and advertisements in the field from French to English. Prerequisite: FRN 202. *1 sem. hr.*

FRN 290. FRENCH GRAMMAR AND SYNTAX: Systematic review of basic grammatical concepts necessary for communicating effectively in French. Extensive practice in analyzing, producing, and explaining correct grammatical structures. Strongly recommended for prospective teachers. Prerequisite: FRN 202. *3 sem. hrs.*

FRN 311-312. FRENCH CONVERSATION I, II: Intensive practice in speaking French to develop oral communication skill. Emphasis on vocabulary development, listening comprehension, simulation of life-like situations, and discussions on French life and culture. May be taken in either sequence. Prerequisite: FRN 202. *3 sem. hrs. each*

FRN 321-322. FRENCH COMPOSITION I, II: Practice in composition on topics dealing with French life and culture. Systematic vocabulary enrichment, refinement of grammar, and assimilation of stylistic patterns. Emphasis on correct writing and creativity. Initiation into the concept of style in French prose. May be taken in either sequence. Prerequisite: FRN 311 or 312. *3 sem. hrs. each*

FRN 325. INTRODUCTION TO COMMERCIAL FRENCH: Introduction to French business and the French position in international trade. Basic vocabulary of the office and the world of trade, introduction to formal correspondence and transactions. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 326. **ADVANCED COMPUTER FRENCH:** Intensive practice of translation from English to French and French to English of professional and technical computer-related literature from such fields as business, computer science, and education. Prerequisites: FRN 226; 311 or 312. *1 sem. hr.*

FRN 331. **FRENCH PHONETICS AND DICTION:** Formation of the sounds of French, rules of pronunciation, use of phonetic transcription, practical exercises in interpretive reading. Recommended for French majors and required for prospective teachers. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 341. **FRENCH CULTURE AND CIVILIZATION:** Introduction to the history of French civilization with emphasis on the arts and life in each major cultural period. Recommended for all French majors and minors. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

* FRN 350. **FRENCH LITERATURE IN TRANSLATION:** Course to acquaint nonmajors and nonminors with major French writers and literary movements. Conducted in English. Repeatable when subtitle and content change. No prerequisite. *3 sem. hrs.*

FRN 360. **EXPLICATION DE TEXTES:** Introduction to method of analyzing literary texts, both prose and poetry. Elements of French versification. Recommended for all French majors and prospective teachers. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

* FRN 361-362. **SURVEY OF FRENCH LITERATURE I, II:** Major texts, trends, authors from the Middle Ages to the present, showing influences and continuity. Lectures, discussions, oral and written reports. Recommended for all French majors and prospective teachers. May be taken in either sequence. Prerequisite: FRN 311 or 312. *3 sem. hrs. each*

FRN 370. **STUDY ABROAD:** Intensive study in a foreign country whose everyday language is French, treating the culture and civilization of the country. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: FRN 202. *1-6 sem. hrs.*

FRN 381. **HISTORY OF FRENCH CINEMA:** A survey of the trends, styles, and principal directors in the history of French cinema. Discussion of personal, social, and cultural values portrayed in films. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 425. **ADVANCED COMMERCIAL FRENCH:** Intensive study of business in France. Emphasis on specialized vocabulary, style, and syntax in commercial correspondence and accurate translation of current documents related to business and publicity. Prerequisites: FRN 321 or 322; 325. *3 sem. hrs.*

* FRN 450. **FRENCH LITERATURE:** Lectures and discussion concentrating on specialized genres, periods, or authors. Repeatable when subtitle and content change. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 491. **INDEPENDENT STUDY:** Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of the chairperson. Prerequisites: FRN 202 and permission. *1-3 sem. hrs.*

GERMAN

GER 102. INTENSIVE ELEMENTARY GERMAN: Basic elements of the German language with emphasis on grammar, pronunciation, reading, speaking, and aural comprehension. Offered only in a German-speaking country in connection with ISSAP or another UD summer abroad program. No prerequisite.

3 sem. hrs.

GER 103-104. ELEMENTARY GERMAN I, II: Basic elements of German language with emphasis on pronunciation, speaking, reading, and grammar. Language laboratory required. Prerequisite: None for GER 103; GER 102 or 103 for 104.

4 sem. hrs. each

GER 201-202. INTERMEDIATE GERMAN I, II: Systematic grammar review. Increased use of the language in written exercises and classroom discussions based on readings. Exposure to the development of German civilization and culture. Prerequisites: GER 104 for 201; GER 201 for 202.

3 sem. hrs. each

GER 311-312. GERMAN CONVERSATION: Intensive drill to develop communication skills: vocabulary development, pattern drills, and use of idioms in discussions and oral reports centered on German daily life and culture. May be taken in either sequence. Prerequisite: GER 202.

3 sem. hrs. each

GER 321-322. GERMAN COMPOSITION I, II: Practice in writing German on a variety of topics. Systematic grammar review and vocabulary enrichment. Short stories and periodicals are read and discussed to provide models, topics, and information. May be taken in either sequence. Prerequisite: GER 311 or 312.

3 sem. hrs. each

GER 325. COMMERCIAL GERMAN: Introduction to the business language and customs and the economic profile of the German-speaking countries. Basic vocabulary of the office and the world of trade, introduction to formal business correspondence and transactions. Prerequisite: GER 311 or 312 or the equivalent.

3 sem. hrs.

GER 341. GERMAN CULTURE AND CIVILIZATION: Introduction to German culture and civilization with emphasis on the arts, intellectual developments, and life in various periods of German history. Conducted in German. Prerequisite: GER 311 or 312.

3 sem. hrs.

GER 350. GERMAN LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major German writers and literary movements. Conducted in English. Repeatable when subtitle and content change. No prerequisite.

3 sem. hrs.

GER 361-362. SURVEY OF GERMAN LITERATURE I, II: German literature and its development from 750 A.D. to the present. Study of exemplary works and literary movements. May be taken in either sequence. Prerequisite: GER 311 or 312.

3 sem. hrs. each

GER 370. STUDY ABROAD: Intensive study in a foreign country whose everyday language is German, treating the culture and civilization of the country. Conducted in German. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: GER 202.

1-6 sem. hrs.

GER 450. GERMAN LITERATURE: Lectures and discussions in German in such specialized areas as Medieval lyric, Romanticism, 20th-century novel, modern drama, and individual authors. Repeatable when subtitle and content change. Prerequisite: GER 311 or 312. *3 sem. hrs.*

GER 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of sem. hrs. require approval of chairperson. Prerequisites: GER 202 and permission. *1-3 sem. hrs.*

ITALIAN

ITA 103-104. ELEMENTARY ITALIAN I, II: Introduction to listening, speaking, reading, and writing in Italian. Dictations, pronunciation drills, grammar exercises, structured and unstructured conversations, and reading and writing exercises. The class is conducted primarily in Italian. Prerequisite: None for ITA 103; ITA 103 for 104. *4 sem. hrs. each*

ITA 201-202. INTERMEDIATE ITALIAN I, II: Development of listening, speaking, reading, and writing skills. Conversation practice, oral reports, reading assignments, composition assignments, and grammar exercises. The class is conducted in Italian. Prerequisites: ITA 104 for 201; ITA 201 for 202. *3 sem. hrs. each*

ITA 313-314. COMMUNICATING IN ITALIAN I, II: Intensive practice in speaking and writing Italian at an advanced level. Emphasis on building vocabulary, learning correct idiomatic usage, increasing fluency, and improving syntax and style. The class is conducted in Italian. May be taken in either sequence. Prerequisite: ITA 202. *3 sem. hrs. each*

ITA 341-342. ITALIAN CULTURE AND CIVILIZATION I, II: Survey of the major historical and cultural events in Italy from the Middle Ages to the present. All readings, lectures, discussions, reports, and tests are in Italian. May be taken in either sequence. Prerequisite: ITA 202. *3 sem. hrs. each*

ITA 361-362. SURVEY OF ITALIAN LITERATURE I, II: Italian literature from its beginnings in the 13th century to the present. Principal writers and literary trends; the techniques of literary analysis. Lectures, discussions, readings, and papers are in Italian. May be taken in either sequence. Prerequisite: ITA 202. *3 sem. hrs. each*

ITA 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of sem. hrs. require approval of chairperson. Prerequisites: ITA 202 and permission. *1-3 sem. hrs.*

LATIN

LAT 103-104. ELEMENTARY LATIN I, II: Development of a foundation for reading classical Latin. Prerequisite: None for LAT 103; LAT 103 for 104. *4 sem. hrs. each*

LAT 201-202. INTERMEDIATE LATIN I, II: Systematic review of grammar, exercises in vocabulary development, readings from Caesar, Cicero, Virgil, or Ovid. Prerequisite: LAT 104 for 201; LAT 201 for 202. *3 sem. hrs. each*

LAT 321. LATIN COMPOSITION AND SYNTAX: Practice in writing Latin, for enrichment of vocabulary, refinement of grammar, and control of major Latin prose styles. Prerequisite: LAT 202. *3 sem. hrs.*

LAT 350. LATIN LITERATURE: Advanced readings in a particular author or genre (epic, drama, history, philosophy). Repeatable when subtitle and content change. Prerequisite: LAT 202. *3 sem. hrs.*

LAT 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. Prerequisite: LAT 202 or permission. *1-3 sem hrs.*

RUSSIAN

RUS 103-104. ELEMENTARY RUSSIAN I, II: Familiarization of the beginner with the essentials of the spoken and written language. Vocabulary practice, simple sentence structure, conversational drills, and reading; stress on pronunciation and handwriting. Prerequisite: None for RUS 103; RUS 103 for 104. *4 sem. hrs. each*

RUS 201-202. INTERMEDIATE RUSSIAN I, II: Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern and contemporary prose and poetry. Prerequisites: RUS 104 for 201; RUS 201 for 202. *3 sem. hrs. each*

RUS 311-312. RUSSIAN CONVERSATION: Vocabulary development, pattern drills, and the use of idioms in discussion and oral reports centered on Russian life and culture. May be taken in either sequence. Prerequisite: RUS 202.

3 sem. hrs. each

RUS 321. RUSSIAN COMPOSITION: Practice in composition on topics dealing with Russian life and culture; personal and business letters. Short weekly assignments to build vocabulary and control of idioms. Prerequisite: RUS 202.

3 sem. hrs.

* RUS 361. SURVEY OF RUSSIAN LITERATURE: Russian literature and its development during the 19th and 20th centuries. Study of exemplary works and literary movements. Prerequisite: RUS 202. *3 sem. hrs.*

RUS 491. INDEPENDENT STUDY: Independent study under the guidance of an instructor. Admission to course and number of sem. hrs. require approval of chairperson. Repeatable when content changes. *1-6 sem. hrs.*

SPANISH

SPN 103-104. ELEMENTARY SPANISH I, II: Development of a foundation for understanding, speaking, reading, and writing Spanish. Language laboratory required. Prerequisite: None for SPN 103; SPN 103 for 104. *4 sem. hrs. each*

SPN 201-202. INTERMEDIATE SPANISH I, II: Intensive development of the basic principles of Spanish through writing and conversation, stressing fluency. Language laboratory required. Prerequisites: SPN 104 for 201; SPN 201 for 202. *3 sem. hrs. each*

SPN 270. STUDY ABROAD: Intensive study in a foreign country whose everyday language is Spanish, treating the culture and civilization of the country. Conducted in Spanish. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: SPN 104 or equivalent. *1-6 sem. hrs.*

SPN 290. SPANISH GRAMMAR & SYNTAX: Systematic review of basic grammatical concepts necessary for communicating effectively in Spanish. Extensive practice in analyzing, generating, and explaining correct grammatical structures. Recommended for prospective teachers. Prerequisite: SPN 202 or the equivalent. *3 sem. hrs.*

SPN 311-312. SPANISH CONVERSATION I, II: Development of fluency in the vocabulary and idioms of the spoken language through discussion of topics related to contemporary life in the Hispanic world. May be taken in either sequence. Prerequisite: SPN 202. *3 sem. hrs. each*

SPN 321-322. SPANISH COMPOSITION I, II: Practice in composition on a variety of topics. Systematic refinement and mastery of grammar and assimilation of stylistic patterns. Emphasis on developing facility in writing clearly and correctly in Spanish. Prerequisites: SPN 311 or 312 for 321; SPN 321 for 322. *3 sem. hrs. each*

SPN 325. COMMERCIAL SPANISH: Introduction to commercial correspondence as a basis for developing skills in writing Spanish business letters and other correspondence. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 341. SPANISH CULTURE AND CIVILIZATION: Readings and discussions on the historical, social, political, and cultural phenomena of Spain. Conducted in Spanish. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 342. IBERO-AMERICAN CULTURE AND CIVILIZATION: Readings and discussions on the historical, social, political, and cultural phenomena of Ibero-America. Conducted in Spanish. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 350. HISPANIC LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major Spanish and Spanish-American writers and literary movements. Conducted in English. Repeatable when subtitle and content change. No prerequisite. *3 sem. hrs.*

SPN 361-362. SURVEY OF SPANISH LITERATURE I, II: Readings and analysis of the works of major Spanish authors and discussion of the principal literary trends in Spain from the Middle Ages to the 20th century. Lectures, discussions, and assignments in Spanish. May be taken in either sequence. Prerequisite: SPN 311 or 312. *3 sem. hrs. each*

SPN 363-364. SURVEY OF SPANISH-AMERICAN LITERATURE I, II: Readings and analysis of the works of major Spanish-American authors and discussion of the principal literary trends in Spanish America from Discovery and Conquest through Realism and Naturalism (I) and Modernism through the present day (II). Conducted in Spanish. May be taken in either sequence. Prerequisite: SPN 311 or 312. *3 sem. hrs. each*

SPN 370. STUDY ABROAD: Intensive study in a foreign country whose everyday language is Spanish, treating the culture and civilization of the country. Conducted in Spanish. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: SPN 202. *1-6 sem. hrs.*

SPN 450. TOPICS IN SPANISH LITERATURE: Lectures and discussions concentrating on specialized genres, periods, or authors of Peninsular literature prior to the 20th century. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 451. TOPICS IN SPANISH-AMERICAN LITERATURE: Lectures and discussions concentrating on specialized genres, periods, or authors of Spanish-American literature prior to the 20th century. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 471. TOPICS IN SPANISH LITERATURE OF THE 20TH CENTURY: Lectures and discussions concentrating on specialized periods, genres, or authors of 20th-century Peninsular literature. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 472. TOPICS IN SPANISH-AMERICAN LITERATURE OF THE 20TH CENTURY: Lectures and discussions concentrating on specialized periods, genres or authors of 20th-century Spanish-American literature. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. Prerequisites: SPN 202 and permission. *1-3 sem. hrs.*

*General Education course. See Chapter V.

MTH

MATHEMATICS (MTH)

The Department of Mathematics offers programs leading to the Bachelor of Arts with a Major in Mathematics and the Bachelor of Science with a Major in Mathematics. The B.A. has a stronger liberal arts component, while the B.S. has a stronger natural science component. Each program requires 39 semester hours of mathematics with additional course work satisfying the degree requirements of the College of Arts and Sciences. These programs are intended to provide a sound background for students wishing to pursue graduate study in a variety of scientific or professional fields and to develop the mathematical skills necessary for students seeking employment in the scientific and business communities.

PROGRAM A9: BACHELOR OF ARTS WITH A MAJOR IN MATHEMATICS (MTA)¹

	<i>Semester Hours</i>
Mathematics	39
Basic calculus: MTH 168, 169, 218	12
Upper-level requirements: MTH 302, 319, 361, 430	12
Upper-level electives (Departmental approval required.)	15
Natural science	7
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

PROGRAM S9: BACHELOR OF SCIENCE WITH A MAJOR IN MATHEMATICS (MTH)¹

	<i>Semester Hours</i>
Mathematics	39
Basic calculus: MTH 168, 169, 218	12
Upper-level requirements: MTH 302, 319, 361, 430	12
Upper-level electives (Departmental approval required.)	15
Minor: 300-400-level courses in chosen area	12
Natural science (Departmental approval required.)	14
Computer science	3
Social and behavioral sciences	6
Humanities	9
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

FACULTY

Thomas E. Gantner, *Chairperson*

Distinguished Service Professor: Schraut

Professors: Eloë, Gantner, McCloskey, Peterson, Rice, Stander, Steinlage

Associate Professors: Back, Friel, Gorton, Higgins, Islam, Mashburn,

Mushenheim, Shaughnessy

Assistant Professor: Kauflin

Lecturers: Neff, Saintignon

COURSES OF INSTRUCTION

MTH 102. FUNDAMENTALS OF MATHEMATICS: Sets, functions and graphs, exponents, polynomials and algebraic equations, systems of equations. Prerequisite: One year of high school algebra. 3 sem. hrs.

MTH 108. INTEGRATED ALGEBRA AND TRIGONOMETRY: Review of the algebraic skills necessary for MTH 168, including properties of order, arithmetic of polynomials, factoring, complex fractions, finding roots of polynomial equations, exponents, functions, domains and ranges, composition, inverses, graphing, and basic properties of trigonometric functions. First term each year. 2 sem. hrs.

MTH 114. CONTEMPORARY MATHEMATICS: A study of contemporary mathematical topics and their applications. Topics may include management science, statistics, social choice, size and shape, and computer mathematics. Prerequisite: Two years of high school algebra. 3 sem. hrs.

MTH 116. PRECALCULUS MATHEMATICS: A review of topics from algebra and trigonometry including polynomials, functions and graphs, exponential and logarithmic functions, trigonometric functions and identities. 4 sem. hrs.

MTH 128. FINITE MATHEMATICS: Topics from mathematics used in business, including systems of equations, inequalities, matrix algebra, linear programming, logarithms. Prerequisite: MTH 102 or sufficient college preparatory mathematics. 3 sem. hrs.

MTH 129. CALCULUS FOR BUSINESS: Continuation of MTH 128. Compound interest and annuities, fundamental concepts and applications of differential and integral calculus. Prerequisite: MTH 128 or sufficient college preparatory mathematics. 3 sem. hrs.

MTH 148. INTRODUCTORY CALCULUS I: Basic coordinate geometry, differentiation of algebraic functions with applications to geometry. Indefinite and definite integrals with applications to the life and physical sciences. Prerequisite: MTH 116 or equivalent. Intended for students in the life and social sciences. 3 sem. hrs.

MTH 149. INTRODUCTORY CALCULUS II: Differentiation and integration of exponential and logarithmic functions with applications to life sciences and to solution of applied differential equations with variables separable. Differentiation and integration of trigonometric functions with applications. Use of tables of integrals. Introduction to vector algebra, vector calculus, partial derivatives, and multiple integrals. Prerequisite: MTH 148. 3 sem. hrs.

MTH 168. ANALYTIC GEOMETRY AND CALCULUS I: Introduction to the differential and integral calculus; differentiation and integration of algebraic and transcendental functions with applications to science and engineering. Prerequisite: MTH 116 or equivalent. 4 sem. hrs.

MTH 169. ANALYTIC GEOMETRY AND CALCULUS II: Continuation of MTH 168. Conic sections, techniques of integration with applications to science and engineering, infinite series, indeterminate forms, Taylor's theorem. Prerequisite: MTH 168.

4 sem. hrs.

MTH 204. MATHEMATICAL CONCEPTS I: Concepts necessary for an understanding of the structure of arithmetic and its algorithms. Prerequisites: One year of high school algebra and one year of high school geometry.

3 sem. hrs.

MTH 205. MATHEMATICAL CONCEPTS II: Recommended for students in elementary education who seek a strong background in the mathematical concepts discussed in grades 4-8. Topics include the metric system, probability and statistics, the use of calculators, and elementary geometry. Prerequisite: MTH 204.

3 sem. hrs.

MTH 207. INTRODUCTION TO STATISTICS: Introduction to the concepts of statistical thinking for students whose majors do not require calculus. Methods of presenting data, including graphical methods. Using data to make decisions and draw conclusions. Basic ideas of drawing a sample and interpreting the information that it contains. Prerequisite: Two years of high school algebra.

3 sem. hrs.

MTH 215. BASIC STATISTICS FOR THE BIOMEDICAL SCIENCES: Probability, the binomial distribution, normal distribution, confidence intervals, tests of hypotheses, proportions, Chi-square test, F-distribution, regression and correlation. Prerequisite: MTH 149 or consent of instructor.

3 sem. hrs.

MTH 218. ANALYTIC GEOMETRY AND CALCULUS III: Continuation of MTH 169. Solid analytic geometry, vectors and vector functions, multivariable calculus, partial derivatives, multiple integrals. Prerequisite: MTH 169.

4 sem. hrs.

MTH 219. APPLIED DIFFERENTIAL EQUATIONS: First order equations, linear equations with constant coefficients, systems of equations, the Laplace transform, power series solutions, numerical methods, applications. Prerequisite: MTH 218. Credit will not be given for both MTH 219 and 319. Mathematics majors take MTH 319.

3 sem. hrs.

MTH 295. HISTORICAL ROOTS OF ELEMENTARY MATHEMATICS: Fundamental historical development of modern arithmetic, geometry, and number systems from early Egyptian, Babylonian, and Greek sources. Students may not receive credit for both this course and MTH 395. Prerequisite: MTH 204 or permission of instructor.

3 sem. hrs.

MTH 301. ESSENTIALS OF MATHEMATICAL REASONING: Techniques of proof, mathematical induction, recursion, counting methods, symbolic logic. Introduction to algebra of sets, infinities, and axiom systems. Open to students who will enroll in upper-level mathematics courses. Corequisite: MTH 218 or 302. Second term, each year.

1 sem. hr.

MTH 302. LINEAR ALGEBRA AND MATRICES: Fundamental concepts of vector spaces, determinants, linear transformations, matrices, inner product spaces, and eigenvectors. Prerequisite: MTH 218. Offered each term.

3 sem. hrs.

MTH 302H. HONORS LINEAR ALGEBRA AND MATRICES: Same material as MTH 302, with additional topics for enrichment in one extra hour each week. Prerequisites: MTH 218 and permission of instructor. Second term, each year.

4 sem. hrs.

MTH 319. ORDINARY DIFFERENTIAL EQUATIONS AND LINEAR SYSTEMS: First order equations, theory of linear equations and existence, uniqueness of solutions of initial value problems, systems of first order equations, Laplace transforms, and power series methods. Prerequisite: MTH 302. Credit will not be given for both MTH 219 and 319. Mathematics majors take MTH 319. First term, each year.

3 sem. hrs.

- MTH 342. SET THEORY: Elementary set theory including relations, functions, indexed families, denumerable and nondenumerable sets, cardinal and ordinal arithmetic, Zorn's Lemma, the well-ordering principle and transfinite induction. Prerequisite: MTH 218 or permission of instructor. Second term, alternate years. *3 sem. hrs.*
- MTH 361. INTRODUCTION TO ABSTRACT ALGEBRA: Fundamental concepts of groups, rings, integral domains and fields. Prerequisite: MTH 218. First and second terms, each year. *3 sem. hrs.*
- MTH 361H. HONORS ABSTRACT ALGEBRA: Same material as MTH 361, with additional topics for enrichment in one extra hour each week. Prerequisites: MTH 218 and permission of instructor. First term, each year. *4 sem. hrs.*
- MTH 367. STATISTICAL METHODS I: Probability distributions including binomial, hypergeometric, Poisson, and normal. Estimation of population mean and standard deviation: Confidence intervals and tests of hypotheses using t-, Chi-square, and F-statistics. Prerequisite: MTH 149 or 218. Mathematics majors enroll in MTH 411 instead of 367. *3 sem. hrs.*
- MTH 368. STATISTICAL METHODS II: Distribution-free methods including rank tests, sign tests, and Kolmogorov-Smirnov test. Method of least squares, correlation, linear regression, analysis of variance. Design of experiments and computer applications. Prerequisite: MTH 367. Mathematics majors enroll in MTH 412 instead of 368. *3 sem. hrs.*
- MTH 370. INTRODUCTION TO HIGHER GEOMETRY: Projective, affine, and hyperbolic geometries using synthetic and/or analytic techniques. Prerequisite: MTH 218 or permission of instructor. Second term, alternate years. *3 sem. hrs.*
- MTH 376. NUMBER THEORY: Topics include Diophantine equations, Chinese Remainder theorem, Mobius inversion formula, quadratic residues and the Law of Quadratic Reciprocity, Gaussian integers, and integral quaternions. Prerequisite: MTH 218. First term, alternate years. *3 sem. hrs.*
- MTH 395. DEVELOPMENT OF MATHEMATICAL IDEAS: The evolution of mathematical ideas and techniques from ancient times to the present with emphasis on the Greek era. Famous men and famous problems. Chronological outline of mathematics in each of its branches along with applications. Prerequisite: MTH 148 or 168 or permission of instructor. First term, alternate years. *3 sem. hrs.*
- MTH 403. BOUNDARY VALUE PROBLEMS: Introduction to the Sturm Liouville problem. Fourier trigonometric series, Fourier integrals, Bessel functions, and Legendre polynomials. The heat equation, wave equation, and Laplace's equation with applications. Solutions by the product method. Prerequisite: MTH 219 or 319. First term, each year. *3 sem. hrs.*
- MTH 404. APPLIED COMPLEX VARIABLES: Functions of a complex variable, conformal mapping, integration in the complex plane. Laurent series and residue theory. Prerequisite: MTH 219 or 319. Mathematics majors enroll in MTH 431 instead of 404. Second term, each year. *3 sem. hrs.*
- MTH 411. PROBABILITY AND STATISTICS I: Mathematical probability, combinatorial methods, random variables, Bayes theorem, moments, Chebyshev's inequality, binomial, Poisson, and normal probability laws, moment-generating functions, limit theorems. Prerequisite: MTH 218. Second term, each year. *3 sem. hrs.*
- MTH 412. PROBABILITY AND STATISTICS II: Distribution theory, central limit theorem, random sampling, estimation of parameters including maximum likelihood, confidence intervals, the Neyman-Pearson lemma, tests of hypotheses, likelihood ratio tests, sampling from a normal population. Prerequisite: MTH 411. First term, each year. *3 sem. hrs.*

MTH 413. PROBABILITY AND STATISTICS III: Statistical decision theory, partitioning of sums and squares, analysis of variance, regression on several independent variables, multiple regression approach to analysis of variance, design of experiments. Prerequisite: MTH 412. Second term, each year. *3 sem. hrs.*

MTH 430. REAL ANALYSIS: Fundamental concepts of analysis: metric completeness, uniform continuity and uniform convergence; power series and interchange of limits. Prerequisite: MTH 302. First term, each year. *3 sem. hrs.*

MTH 430H. HONORS REAL ANALYSIS: Same material as MTH 430, with additional topics for enrichment in one extra hour each week. Prerequisites: MTH 302 and permission of instructor. First term, each year. *4 sem. hrs.*

MTH 431. COMPLEX ANALYSIS: Introduction to complex analysis: analytic functions and the Cauchy integral theory; Laurent series and the calculus of residues. Optional topics may include applications of the residue theory. Prerequisite: MTH 302. Second term, each year. *3 sem. hrs.*

MTH 431H. HONORS COMPLEX ANALYSIS: Same material as MTH 431, with additional topics for enrichment in one extra hour each week. Prerequisites: MTH 302 and permission of instructor. Second term, each year. *4 sem. hrs.*

MTH 440. INTRODUCTION TO MATHEMATICAL MODELING: Introduction to the use of mathematical techniques and results in constructing and modifying models designed to solve problems encountered in everyday life. Computer simulation and limitations thereon, dimensional analysis, scaling, and approximations at various levels. Prerequisites: MTH 219 (or 319), 302, and permission of instructor. Second term, alternate years. *3 sem. hrs.*

MTH 441. MATHEMATICS CLINIC: Student teams will be responsible for the development and/or modification and testing of a mathematical model designed for a particular purpose. Faculty guidance. Prerequisites: MTH 440 and permission of chairperson. *3 sem. hrs.*

MTH 445H. SPECIAL TOPICS IN (NAMED AREA): Lectures in specialized areas such as abstract algebra, applied mathematics, complex variables, differential forms, functional analysis, Galois theory, game theory, general topology, normed linear spaces, probability theory, real variables, topological groups. May be taken more than once. Prerequisite: Permission of chairperson. *1-3 sem. hrs.*

MTH 463. APPLIED LINEAR ALGEBRA: Topics include linear programming and its applications, game theory, Markov chains or linear codes and their error-correcting capabilities. Prerequisite: MTH 302. First term, each year. *3 sem. hrs.*

MTH 466. APPLIED MODERN ALGEBRA: Introduction to various algebraic concepts that are applicable to computer science and related areas. Topics may include Boolean algebra and logic circuits, algebraic structures and finite state machines, groups and group codes, combinatorics and graph theory. Prerequisite: MTH 302. Second term, each year. *3 sem. hrs.*

MTH 471. TOPOLOGY: Introduction to topological spaces and continuous functions including a study of separation and countability axioms and elementary properties of metric spaces, connected spaces, and compact spaces. Prerequisite: MTH 302 or permission of instructor. *3 sem. hrs.*

MTH 490. READINGS IN (NAMED AREA): Individual study in specialized areas carried out under the supervision of a staff member. May be taken more than once. Prerequisite: Permission of chairperson. *1-3 sem. hrs.*

MEDICAL TECHNOLOGY (MET)

The program leading to a Bachelor of Science with a major in Medical Technology is University-based (the University holds the sponsorship for the program) and is fully accredited by the Committee on Allied Health Education and Accreditation (CAHEA). The MET program employs a 3+1 curricular structure. The first three years consist of a sequence of courses that provide a liberal arts education with an academic emphasis in the life sciences, including an introduction to medical technology. The fourth year is a 13 month period of instruction that consists of didactic MET courses (lectures and accompanying laboratories) taught at the University, and supervised clinical rotations in the clinical laboratories of our Dayton area hospital affiliates: Good Samaritan Hospital, Kettering Medical Center, and St. Elizabeth Medical Center.

Students must successfully complete all the prerequisite requirements for the B.S. degree prior to entering the clinical year. Acceptance into the clinical year is based on grades (a 2.5 grade point average is recommended), motivation and interview performances.

The MET curriculum is designed to meet all of the academic requirements of the University of Dayton and of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Students are awarded a baccalaureate degree at the University's summer commencement exercises. Successful completion of the program qualifies the graduate to take a national examination to become a certified medical technologist.

PROGRAM S10: BACHELOR OF SCIENCE WITH A MAJOR IN MEDICAL TECHNOLOGY (MET)¹

	<i>Semester Hours</i>
Required science and mathematics courses	54-55
BIO 151, 152, 152L, 411, 411L, 425, 425L, elective	18
CHM 123, 123L, 124, 124L, 201, 313, 313L, 314, 314L	19
PHY 201, 201L, 202, 202L	8
MTH 148 ² , 207	6-7
CPS 111	3
Medical technology courses	46
MET 201L, 332, 332L, 333, 333L, 334, 334L, 335, 335L, 337, 337L, 338, 338L, 432, 432L, 433, 433L, 434, 434L, 439, 440L, 441, 442, 443, 444	
Communication skills	6-12
CMM 101	0-3
ENG 101-102 or 114 or 198; ENG elective	6-9
Philosophy and religious studies	12
Humanities	9
Social and behavioral sciences	6
First-year experience: ASI 150	0-1
Total semester hours	133-141

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²If background is not suitable for calculus, then substitute MTH 116, Precalculus, for MTH 148.

FACULTY

Suzanne L. Columbus, *Program Director*

Associate Professor: Chantell

Assistant Professors: Columbus, Conley

Clinical Assistant Professors: Chu, Dickman, Gilleland, Nagy

Lecturer: Schieltz

COURSES OF INSTRUCTION

MET 201L. BASIC CLINICAL LABORATORY TECHNIQUES: Introduction to basic techniques such as specimen collection, safety, quality control, and medical terminology; computer applications. Prerequisites: BIO 151, CHM 123. 1 sem. hr.

MET 332. CLINICAL CHEMISTRY I: Human physiological chemistry with applications of analytical techniques to the examination of body fluids and tissues. Prerequisites: CHM 314, 201; BIO 152. Corequisite: MET 332L. 3 sem. hrs.

MET 332L. CLINICAL CHEMISTRY I LABORATORY: Laboratory manipulations to accompany MET 332. Corequisite: MET 332. 1 sem. hr.

MET 333. CLINICAL MICROBIOLOGY I: Study of microorganisms found in human infection, their isolation, identification, and prophylaxis. Prerequisites: BIO 411, CHM 314. Corequisite: MET 333L. 3 sem. hrs.

MET 333L. CLINICAL MICROBIOLOGY I LABORATORY: Laboratory manipulations to accompany MET 333. Corequisite: MET 333. 1 sem. hr.

MET 334. HEMATOLOGY I: Instruction in the morphology of the blood and blood-forming tissues. Prerequisite: BIO 152. Corequisite: MET 334L. 2 sem. hrs.

MET 334L. HEMATOLOGY I LABORATORY: Laboratory manipulations to accompany MET 334. Corequisite: MET 334. 2 sem. hrs.

MET 335. IMMUNOLOGY I: Study of the immune system, in particular antigen-antibody reactions in vitro. Prerequisites: BIO 152, CHM 124. Corequisite: MET 335L. 2 sem. hrs.

MET 335L. IMMUNOLOGY I LABORATORY: Laboratory manipulations to accompany MET 335. Corequisite: MET 335. 1 sem. hr.

MET 337. IMMUNOHEMATOLOGY: Study of the principles of blood banking, transplantation immunity, and autoimmunity. Prerequisites: BIO 152, MET 335. Corequisite: MET 337L. 2 sem. hrs.

MET 337L. IMMUNOHEMATOLOGY LABORATORY: Laboratory manipulations to accompany MET 337. Corequisite: MET 337. 1 sem. hr.

MET 338. MYCOLOGY: Culture and identification of fungi, including saprophytes and those causing superficial and deep mycoses. Prerequisite: BIO 152. Corequisite: MET 338L. 1 sem. hr.

- MET 338L. MYCOLOGY LABORATORY: Laboratory manipulations to accompany MET 338. Corequisite: MET 338. *1 sem. hr.*
- MET 432. CLINICAL CHEMISTRY II: Theory and principles of a variety of quantitative techniques with evaluation of procedures and results. Basic metabolic processes and common disease conditions that correlate with the analytical tests studied. Prerequisites: MET 332, 332L. Corequisite: MET 432L. *2 sem. hrs.*
- MET 432L. CLINICAL CHEMISTRY II LABORATORY: Laboratory manipulations to accompany MET 432. Corequisite: MET 432. *1 sem. hr.*
- MET 433. CLINICAL MICROBIOLOGY II: Study of nonroutine procedures and organisms in microbiology; identification of unusual microorganisms including mycobacteria and viruses. Prerequisites: MET 333, 333L. Corequisite: MET 433L. *1 sem. hr.*
- MET 433L. CLINICAL MICROBIOLOGY II LABORATORY: Laboratory manipulations to accompany MET 433. Corequisite: MET 433. *1 sem. hr.*
- MET 434. HEMATOLOGY II: Study of disease correlations and nonroutine hematological examinations of body fluids including bone marrows; identification of abnormal cells. Prerequisites: MET 334, 334L. Corequisite: MET 434L. *2 sem. hrs.*
- MET 434L. HEMATOLOGY II LABORATORY: Laboratory manipulations to accompany MET 434. Corequisite: MET 434. *1 sem. hr.*
- MET 435. ADVANCED STUDY IN IMMUNOLOGY-IMMUNOHEMATOLOGY: Study of advanced theories and problem-solving techniques for immunology and immunohematology laboratory tests. Required for students with MLT certification only. Prerequisites: MET 337, 337L, 444, or equivalent. *2 sem. hrs.*
- MET 439. CLINICAL PATHOLOGY SEMINAR: Current developments and special topics. Corequisite: MET 444. *1 sem. hr.*
- MET 440L. BODY FLUID ANALYSIS LABORATORY: Study of body fluids. Pathophysiology of the formation and nature of all the body fluids; techniques of examination for diagnostic information. Prerequisite: BIO 151. *1 sem. hr.*
- MET 441. CLINICAL EDUCATION AND ADMINISTRATION: Focus on the basic considerations of laboratory management and theories of task-oriented instruction. *1 sem. hr.*
- MET 442. RESEARCH DESIGN AND METHODOLOGY: Discussion and practice of the principles and techniques of medical laboratory research; consideration of experimental design, literature review, quality control, statistical analysis of data, and evaluative techniques. *2 sem. hrs.*
- MET 443. APPLIED CLINICAL PROCEDURES I: Supervised experience in a hospital clinical laboratory with rotations in all sections. Prerequisites: MET 201, 332, 332L, 334, 334L, 335, 335L, 440L. *4 sem. hrs.*
- MET 444. APPLIED CLINICAL PROCEDURES II: A continuation of MET 443. *8 sem. hrs.*

MIL

MILITARY SCIENCE (MIL) ARMY ROTC

The Department of Military Science offers the Reserve Officers Training Corps (ROTC) program on the campus, providing instruction in general military subjects applicable to all branches of the Army. The purpose of the Reserve Officers Training Corps is to develop selected college-educated men and women for positions of responsibility as officers in the active Army, the Army Reserve, and the Army National Guard.

The Military Science Program is designed to develop a high degree of personal honor, self-reliance, and leadership and to provide the means of becoming better informed on matters of national defense. The program provides men and women who are working toward the baccalaureate degree the opportunity to become officers in the United States Army.

The four-year program is divided into a basic course (normally first and second years) and an advanced course (normally third and fourth years), and it is offered to all students for academic credit.

The basic course emphasizes practical leadership techniques and management concepts that apply equally in both military organizations and private industry. While in this phase of the program, students have no military obligation and are simply taking ROTC courses, like any other college courses, for credit. Students who receive credit for the basic course and demonstrate a potential for becoming effective officers may continue to pursue a commission by enrolling in the advanced course.

The advanced course is designed to prepare students to be Army lieutenants by including practical work in tactics, training, management, leadership techniques, and the exercise of command. Advanced course students are paid \$100 a month during the school year. During the summer between the junior and senior years, cadets attend a six-week ROTC Advanced Camp, which allows them to apply the leadership and technical training learned in the classroom. While at camp, students are paid half a second lieutenant's monthly salary or about \$700.

In addition to ROTC instruction, a student must attain an equal level of professional military education. Army officers, like other professionals, cannot be satisfied with a collection of knowledge found only in their academic field. In order to be prepared to become officers, students are required to complete courses in military history, written communication skills, human behavior, computer literacy, mathematical reasoning, and foreign language (Army scholarship recipients only). These courses may be taken in conjunction with academic majors.

The ROTC program is also available to students with three or two years remaining on campus, including graduate students. Special programs, such as Basic Camp, have been established to allow second-semester sophomores and juniors or seniors who will be going on to graduate school to participate in the military science program.

There is also a special program whereby veterans and JROTC students can receive advanced placement credit in Army ROTC. Veterans and students with high school JROTC training, with the approval of the chairperson of the Department of Military Science, may receive placement credit for part or all of the basic course. Each case will be judged individually so that the best interests of both the student and the military may be served.

Army ROTC scholarships are available to students. These scholarships cover three- and two-year periods and provide for tuition, books, fees, special equipment, and \$100 a month for up to ten months of each school year. Scholarships, which are highly competitive, are awarded to those who demonstrate outstanding academic and leadership ability.

FACULTY

Major James A. Roy, U.S. Army, *Chairperson*
Professor: Roy
Assistant Professors: Burger, Edgren, Tolson
Instructors: Riggleman, Basil

COURSES OF INSTRUCTION¹

MIL 100 (UD). LEADERSHIP LABORATORY: Practical training in military courtesy, drill and ceremony, military skills, map reading, marksmanship, and tactics. *1 sem. hr.*

MIL 101 (UD). LEADERSHIP I: ROTC programs and opportunities; rappelling, leadership, communications and management skills, and pistol marksmanship. Optional field trips, field exercises, physical training, leadership laboratory and social events. *1 sem. hr.*

MIL 102 (UD). LEADERSHIP II: Rifle marksmanship, fundamentals and principles of leadership, management techniques for individual and group behavior. Optional physical training, leadership laboratory, and social events. *1 sem. hr.*

MIL 121 (SCC).² Same as MIL 101 (UD). *0.7 sem. hr.*

MIL 122-123 (SCC).² Combination of these two courses completes all requirements of MIL 102 (UD). *0.7 sem. hr. each*

MIL 201 (UD). MAP READING AND TACTICS: Study of basic map reading skills, basic military tactics, movement techniques, and some small unit weapons. Participation in leadership laboratory and two field training exercises. Optional physical training and social events. *2 sem. hrs.*

MIL 202 (UD). FIRST AID AND LEADERSHIP: Leadership consideration for physical fitness, preventive medicine programs, and basic first aid procedures. Study of the role and branches of the Army and the role of the NCO. Participation in leadership laboratory. Optional physical training and social events. *2 sem. hrs.*

MIL 221 (SCC).² Same as MIL 201 (UD). *1.4 sem. hrs.*

MIL 222-223 (SCC).² Combination of these two courses completes all requirements of MIL 202 (UD). *1.4 sem. hrs. each*

MIL 301 (UD). LEADERSHIP IN TACTICS AND EVALUATION TECHNIQUES: Study of military weapons systems, land navigation-terrain association, operations orders, and small unit tactics. Physical training, leadership laboratory, two field training exercises, historical field trip, and social events are mandatory. *2 sem. hrs.*

MIL 302 (UD). COMMUNICATIONS AND PROFESSIONAL KNOWLEDGE: Study of emplacement of communications equipment, communication techniques used by the Army, employment of and defense against weapons systems, and the roles of various branches of the Army. Field training exercises, social events, physical training, and leadership laboratory are mandatory. *2 sem. hrs.*

MIL 401 (UD). LEADERSHIP MANAGEMENT AND STAFF: Study of military staff functions; how to conduct meetings, briefing, and training; how to conduct various types of counseling; and effective and ineffective leadership techniques. Physical training, leadership laboratory, historical field trip, social events, and field training exercises are mandatory. *2 sem. hrs.*

MIL 402 (UD). APPLIED LEADERSHIP AND MANAGEMENT: Leadership and management studies in professionalism, ethics, and military justice. Various types of military correspondence and the responsibilities of an officer. Physical training, leadership laboratory, field training exercises, and social events are mandatory. *2 sem. hrs.*

MIL 411 (UD). AIR LAND BATTLE/LOW INTENSITY CONFLICT: This course will identify and discuss the roles and mission of the branches found within the U.S. Army as they relate to Air Land Battle and Low Intensity Conflicts. Incorporates the background and experience of resident instructors and presentations by visiting service representatives. *2 sem. hrs.*

MIL 412 (UD). U.S. MILITARY TODAY: This course will identify and discuss the roles, missions, organizational structure and equipment, tactical and strategic employment, and future trends of the Armed Services. Incorporates the background and experience of resident instructors and presentations by visiting service representatives. *2 sem. hrs.*

¹Students should check with their deans for any restrictions on applying MIL courses to their degree programs.

²Course offered through the Consortium with Sinclair Community College.

MUSIC (MUS)

Music is a unique form of expression and communication. A course of study provides for an aesthetic appreciation and an opportunity to translate musical concepts into a valuable and practical skill. The Department of Music of the University of Dayton provides academic coursework to foster artistic understanding and creative thinking, practical instruction to develop musical skills, and substantial laboratory and performance experience.

The Department of Music is a member of the National Association of Schools of Music, which accredits its degree programs and curricula. In addition, the music education degree program is approved by the State of Ohio and the music therapy degree program by the National Association for Music Therapy.

The Department of Music has numerous performing ensembles open to all students: The University Chorale, Chamber Singers, Opera Workshop, Ebony Heritage Singers, Celebration Vocal Transit, Miami Valley Symphony, University Wind Ensemble, Marching Band and Pep Band, Jazz Ensembles, and chamber instrumental ensembles.

The Department of Music offers five degree programs:

- A10: Bachelor of Arts with a Major in Music (MUS)
 A11: Bachelor of Music with a Major in Music Theory (MTY)
 or Composition (MUC)
 A11A: Bachelor of Music with a Major in Performance (MUP)
 A11B: Bachelor of Music with a Major in Music Therapy (MUT)
 A11C: Bachelor of Music with a Major in Music Education (MUE)

All prospective music students must be admitted to the University of Dayton by the Office of Admission. In addition, all prospective students must (1) furnish the Department of Music with letters of recommendation from their high school music teachers and/or performance teachers and (2) successfully complete the performance audition, either in person or via tape recording. Specific information regarding audition requirements and dates is available from the department office.

The Department of Music offers a minor in music, consisting of 22 semester hours, including 12 semester hours of upper-division coursework. It also offers a certificate in church music, consisting of 34 semester hours of coursework. Further information is available from the department office.

**PROGRAM A10: BACHELOR OF ARTS WITH A MAJOR
 IN MUSIC (MUS)¹**

	<i>Semester Hours</i>
Music requirements	42
Music theory: MUS 111-114, 211-214	16
Music history and literature: MUS 301-302	6
Conducting: MUS 240	2
Performance studies, including functional keyboard skills (if needed)	12
Ensemble: MUS 491, 492 or 493	4
Recital attendance: MUS 200 (7 semesters)	0
Music electives	2

Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
First-year experience: ASI 150	0-1
General Education and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

PROGRAM A11: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC THEORY (MTY) OR COMPOSITION (MUC)¹

	<i>Semester Hours</i>
Music requirements	87
Requirements for both MTY and MUC	
Music theory: MUS 111-114, 211-214	16
Music history and literature: MUS 301-302, elective	9
Orchestration or arranging: MUS 316 or 318	2
Composition: MUS 321-322	4
Conducting: MUS 240, 345 or 346	4
Performance studies: MUS 399 and/or 499; 296-299 ²	12
Ensemble: MUS 491, 492, or 493	8
Recital attendance: MUS 200 (7 semesters)	0
Theory and/or composition electives	10
Music electives	10
Additional requirements for MTY ³	
Counterpoint: MUS 311-312	4
Style and design: MUS 413-414	4
Research in music theory: MUS 418-419	4
Additional requirements for MUC ⁴	
Composition: MUS 121-122, 221-222, 421-422	8
Score reading: MUS 314	2
Advanced orchestration: MUS 416	2
Communication skills	0-9
Philosophy and religious studies	12
Natural science	6
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	6
Humanities	6
First-year experience: ASI 150	0-1
General Education courses and academic electives to total	136

¹See Chapter V for General Education Requirements.

²Functional Keyboard Skills or equivalent is required.

³Each theory major must submit a research paper in the senior year.

⁴Each composition major must present one and a half recitals of original work by the senior year.

PROGRAM A11A: BACHELOR OF MUSIC WITH A MAJOR IN PERFORMANCE (MUP)¹

	<i>Semester Hours</i>
Music requirements	87
Music theory: MUS 111-114, 211-214	16
Music history and literature: MUS 301-302, elective	9
Conducting and arranging: MUS 240, 318	4
Performance studies ²	36
Major area of specialization	24-32
Minor area of specialization	4-12
Ensemble: MUS 491, 492, or 493	8
Recital attendance: MUS 200 (7 semesters)	0
Music electives	14
Communication skills	0-9
Philosophy and religious studies	12
Natural science	6
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	6
Humanities	6
First-year experience: ASI 150	0-1
General Education courses and academic electives to total	136

¹See Chapter V for General Education Requirements.

²Performance study in major area must lead to a half junior solo recital and a full senior solo recital.

PROGRAM A11B: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC THERAPY (MUT)¹

	<i>Semester Hours</i>
Music requirements	81
Music theory: MUS 111-114, 211-214	16
Music history and literature: MUS 301-302	6
Conducting and arranging: MUS 240, 318	4
Performance studies on the student's principal instrument leading to a minimum of a half-recital during the junior or senior year: MUS 399	10
Vocal and instrumental methods, including accompanying instruments of piano and guitar: MUS 296-299, 292, 235, 338, 392, and three of the following: 237, 238, 239, 293	11
Music therapy, including core courses and practicum: MUS 280, 285, 286, 287, 288, 385, 386, 387, 388, 485, 486	19
Recreational music: MUS 282	2
Music and dance electives	5
Ensemble	6
Recital attendance: MUS 200 (7 semesters)	0
Music therapy internship: MUS 489 ²	2
Psychology: 101, 355, 363, and elective	12
Sociology	3
Science, including HPS 305	6
Communication skills	0-9

Philosophy and religious studies	12
Mathematics (MTH 102, 204, 205 excluded)	3
Humanities	3
First-year experience: ASI 150	0-1
General Education courses and academic electives to total	135

¹See Chapter V for General Education Requirements.

²This internship of six months is taken after student completes all other course requirements. In order to be recommended for an internship, the student must have an overall grade point average of at least 2.00 and a grade point average of at least 2.50 in music, music therapy, and psychology coursework. Upon successful completion of the internship, the graduate is eligible to take a national certification examination to become a Music Therapist—Board Certified.

**PROGRAM A11C: BACHELOR OF MUSIC WITH A MAJOR IN
MUSIC EDUCATION (MUE)¹**

	<i>Semester Hours</i>
Music requirements ²	66-68
Requirements for all specializations ²	
Music theory: MUS 111-114, 211-214	16
Functional keyboard skills ³ : MUS 296-299	4
Music history and literature: MUS 301-302	6
Arranging: MUS 318	2
Performance studies on the student's principal instrument leading to a minimum of a half-recital during the junior or senior year: MUS 399 (7 semesters)	14
Recital attendance: MUS 200 (7 semesters)	0
Ensemble: MUS 491 or 492 or 493 (7 semesters)	0
Music electives	0-3
Additional requirements for band specialization ⁴	
Music education: MUS 235, 331, 332, 333, 335, 336, 337, 338, 339, 430, 431	22
Conducting: MUS 240, 346	4
Additional requirements for orchestra specialization ⁴	
Music education: MUS 235, 331, 332, 333, 335, 336, 337, 338, 339	18
Conducting: MUS 240, 346	4
String minor: MUS 399 (2 semesters)	4
Additional requirements for choral specialization ⁴	
Music education: MUS 235, 237, 238, 239, 331, 332, 333, 335, 338	13
Conducting: MUS 240, 345	4
Guitar: MUS 292, 392	1-2
Piano or voice minor: MUS 399 (3 semesters)	6
Additional requirements for classroom specialization ⁴	
Music education: MUS 235, 237, 238, 239, 331, 332, 333, 335, 338	13
Conducting: MUS 240	2
Guitar: MUS 292, 392	1-2
Piano minor: MUS 399 (4 semesters)	8
Teacher education ² : EDT 110, 207, 208, 318, 351, 419, 422, 469	30
Communication skills	0-9

Philosophy and religious studies	12
Natural science	7
History	3
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	3
Humanities	3-6
First-year experience: ASI 150	0-1
General Education courses and academic electives to total	133-135

¹See Chapter V for General Education Requirements.

²Students in the music education program are required to maintain a 2.0 cumulative grade point average, a 2.5 cumulative average in teacher education and music coursework, and a 2.75 cumulative average in music education and conducting coursework.

³Students will pass a keyboard proficiency examination upon completion of MUS 296-299.

⁴Students will select one of four specialty areas (band, orchestra, choral, classroom). Upon completion of the degree, candidates will receive certification from the State of Ohio to teach vocal, instrumental, and classroom music from kindergarten through senior high school.

CERTIFICATE IN CHURCH MUSIC (MCH)¹

<i>Dept. No.</i>	<i>Course</i>	<i>Semester Hours</i>
MUS 111-112	Theory of Music I	4
MUS 113-114	Aural Skills I	4
MUS 240	Fundamentals of Conducting	2
MUS 318	Fundamentals of Arranging	2
MUS 345	Choral Conducting	2
MUS 399	Organ, Voice, or Guitar Performance Studies	8
MUS 450	Choral Literature for the Church	3
MUS 451	Hymnody and Psalmody	2
MUS 459	Church Music Internship	2
MUS 493	University Chorale	2
REL 446	Liturgy	3
		34

¹Students may also register for classes in this certificate program through the Office of Continuing Education.

FACULTY

Linda J. Snyder, *Chairperson*

Professor: Benedum, Magnuson

Associate Professors: Chenoweth, Sandness, Snyder, Street

Assistant Professors: Baxter, Cox, Hartley, Hoffman, Jones

Lecturer: Zimmerman

Part-time Instructors: Baker, Bauserman, Bowen, Compton, Gilley, Hotopp, Hufnagle,

Lindsay, Marquis, McCutcheon, McMillan, Melia, Oliver, Pepitone, Polonsky,

Rodgers, Sweet, Vandevander, Varella, VandenBos, Watson, Zech

COURSES OF INSTRUCTION

MUS 103. MUSIC APPRECIATION: Study of the masterpieces of music with special reference to the listener. Open to all University students. *2 sem. hrs.*

MUS 104. MUSIC LITERATURE FOR THE ELEMENTARY CLASSROOM: Study of music literature and its direct application to elementary classroom use. *2 sem. hrs.*

MUS 110. FUNDAMENTALS OF MUSIC: For the student with no previous experience with theory of music. Notation of music, key and time signatures, fundamental harmonic progression, and introduction to the piano keyboard. Elementary ear training and dictation. Open to all University students. *2 sem. hrs.*

MUS 111-112. THEORY OF MUSIC I: Basic vocabulary and grammar of music: fundamentals (intervals, scales, modes, keys, triads), counterpoint studies, basic diatonic harmonic motions. Prerequisite: Placement examination. *2 sem. hrs. each*

MUS 113-114. AURAL SKILLS I: Basic techniques of listening as applied to voice and keyboard: identification, dictation, and sight reading. Prerequisite: Placement examination. *2 sem. hrs each*

MUS 121-122. COMPOSITION I: Supplemental explorations for majors in music composition, to accompany work in MUS 111-112. Basic notational practices and application of traditional techniques to the creative process. Corequisite: MUS 111-112. *1 sem. hr. each*

MUS 191. VOICE CLASS: Principles of good singing; development of the voice; vocal literature. Minimum of 4 students required. Open to all students. *2 sem. hrs.*

MUS 196. GROUP PIANO I: For the student with no previous piano study. Rudiments of music reading, performance of simple folk and popular music, basic knowledge of scales, key signatures, and chords. Open to all University students with permission of instructor. Fee. *1 sem. hr.*

MUS 197. GROUP PIANO II: Further development of techniques introduced in MUS 196. Prerequisites: MUS 196, permission of instructor. Fee. *1 sem. hr.*

MUS 198. GROUP PIANO III: Selected material appropriate to the level of advancement attained in MUS 197. Prerequisites: MUS 197, permission of instructor. Fee. *1 sem. hr.*

MUS 199. GROUP PIANO IV: Selected material appropriate to the level of advancement attained in MUS 198. Prerequisites: MUS 198, permission of instructor. Fee. *1 sem. hr.*

MUS 200. RECITAL ATTENDANCE: All music majors are required to attend professional and student concerts and recitals, to develop critical listening experience and knowledge of repertoire. *No credit*

*MUS 201. MUSIC IN CONCERT: A survey of music literature, styles, and important composers, through preparation for and attendance at selected concerts on the campus and in the community. Concert ticket fees will be required. Open to all University students. *3 sem. hrs.*

*MUS 203. SIGHTS AND SOUNDS OF MUSIC: An introduction to music and its literature, with emphasis on the way music has been shaped by its cultural, geographic, and historical contexts. Open to all University students. *3 sem. hrs.*

MUS 211-212. THEORY OF MUSIC II: SATB partwriting, Schenkerian analysis, chromatic procedures, decline of Common Practice Period, basic twentieth-century compositional styles. Prerequisite: MUS 112. *2 sem. hrs. each*

MUS 213-214. AURAL SKILLS II: Advanced techniques of listening as applied to voice and keyboard: identification, dictation and sight reading. Prerequisite: MUS 114. *2 sem. hrs. each*

MUS 221-222. COMPOSITION II: Supplemental explorations for majors in music composition, to accompany work in MUS 211-212. Style analysis and synthesis, extension of traditional techniques, and basic instrumental applications. Corequisites: MUS 211-212. *1 sem. hr. each*

MUS 235. VOICE PEDAGOGY: Techniques for teaching singing. *1 sem. hr.*

MUS 237. BRASS INSTRUMENT LABORATORY: Introduction to the performance and pedagogical techniques for the brass instrument family. Fee. *1 sem. hr.*

MUS 238. WOODWIND INSTRUMENT LABORATORY: Introduction to the performance and pedagogical techniques for the woodwind instrument family. Fee. *1 sem. hr.*

MUS 239. STRING INSTRUMENT LABORATORY: Introduction to the performance and pedagogical techniques for the string instrument family. Fee. *1 sem. hr.*

MUS 240. FUNDAMENTALS OF CONDUCTING: Introductory-level course discussing basic conducting techniques, musical styles, interpretation, score study and analysis, transposition, and literature. Dual emphasis of choral and instrumental techniques. *2 sem. hrs.*

MUS 280. MUSIC AND MOVEMENT FOR THE HANDICAPPED: Training in the use of music and movement for handicapped children under the supervision of AIM (Adventures in Movement) for the Handicapped, Inc. Includes observations in the field. Prerequisite: Sophomore standing in music or related fields. *1 sem. hr.*

MUS 282. RECREATIONAL MUSIC: Functional use of nonsymphonic instruments, rhythm band instruments, musical games, and community singing for both children and adults. *2 sem. hrs.*

MUS 285. INTRODUCTION TO MUSIC THERAPY I: History and development of music therapy; survey of theoretical bases and current trends for the use of music in therapy; disability areas using music therapy. Orientation in the clinical field. Prerequisites: PSY 101, 363. *2 sem. hrs.*

MUS 286. INTRODUCTION TO MUSIC THERAPY II: Continuation of MUS 285; orientation to the profession of music therapy through lectures, readings, audiovisual materials, and field trips; emphasis on specific disability areas using music therapy. Prerequisite: MUS 285. *2 sem. hrs.*

MUS 287. PRACTICUM IN MUSIC THERAPY I: Pre-internship field experiences, including work with adult mentally ill clients. *1 sem. hr.*

MUS 288. PRACTICUM IN MUSIC THERAPY II: Pre-internship field experiences with handicapped children and/or adults. *1 sem. hr.*

MUS 292. BEGINNING GUITAR CLASS: Introduction to playing the guitar; emphasis on chord playing and accompaniment; application of the guitar to music teaching. Fee. *1 sem. hr.*

MUS 293. ORGAN CLASS: Introduction to the organ, including basic performance techniques, registration, beginning literature, and hymn playing. Prerequisite: Permission of instructor, demonstrable keyboard technique. Fee. *1 sem. hr.*

MUS 294. HARPSICHORD CLASS: Beginning class lessons in harpsichord performance, including basic technique, stylistic considerations, and simple maintenance and tuning of the instrument. Prerequisite: Permission of instructor. Fee. *1 sem. hr.*

MUS 296. FUNCTIONAL KEYBOARD SKILLS I: Class instruction in development of basic performance technique, sight reading, accompanying, transposing, playing by ear, improvising, and score reading. Prerequisite: Permission of instructor. Music majors only. Fee. *1 sem. hr.*

MUS 297. FUNCTIONAL KEYBOARD SKILLS II: Further development of techniques introduced in MUS 296. Prerequisites: MUS 296, permission of instructor. Music majors only. Fee. *1 sem. hr.*

MUS 298. FUNCTIONAL KEYBOARD SKILLS III: Continuation of MUS 297 with emphasis on improvisation and harmonization techniques. Prerequisites: MUS 297, permission of instructor. Music majors only. Fee. *1 sem. hr.*

MUS 299. FUNCTIONAL KEYBOARD SKILLS IV: Continuation of MUS 298 with emphasis on advanced chord work and modulation techniques. Prerequisites: MUS 298, permission of instructor. Music majors only. Fee. *1 sem. hr.*

* MUS 301-302. MUSIC HISTORY AND LITERATURE I, II: A survey of Western music history and literature from the Middle Ages to the present. Important composers, masterworks of music literature, compositional styles. *3 sem. hrs. each*

* MUS 304. HISTORY OF AMERICAN MUSIC: Survey of the American musical heritage emphasizing Anglo- and Afro-American folk traditions, early religious music, country music, pioneers in piano, band and concert music, and contemporary popular music. Open to all University students. *3 sem. hrs.*

* MUS 305. AFRICAN-AMERICAN SACRED MUSIC: A historical survey of African-American sacred music from its African roots to the present with an emphasis on developments in recent decades. Examines spirituals, the ring-shout, civil rights songs, the various forms of Gospel music, traditional hymnody of the African-American church and the musical aspects of black preaching. Open to all University students. *3 sem. hrs.*

* MUS 306. HISTORY OF AMERICAN JAZZ: Survey of the literature and performance practices from 1890 to the present. Includes blues, Dixieland, ragtime, boogie-woogie, swing, bop, cool, funky, and current techniques. Open to all University students. *3 sem. hrs.*

* MUS 307. DEVELOPMENT OF AMERICAN POPULAR SONG: Survey of American popular music from the days of the colonies, the war years, the ballad opera, minstrel, vaudeville, operetta, early film music, through Tin Pan Alley to Broadway, including European influences. Open to all University students. *3 sem. hrs.*

MUS 308. CHAMBER MUSIC AND SYMPHONY: Formal and harmonic analysis of chamber music. Formal analysis of symphonies of classic, romantic, and contemporary composers. Prerequisites: MUS 211-212. *2 sem. hrs.*

MUS 309. THE OPERA: Survey of the development of the opera from its 17th-century beginnings to the present. *2 sem. hrs.*

- MUS 311. EIGHTEENTH-CENTURY COUNTERPOINT: Study of the contrapuntal technique of the 18th century, particularly in the instrumental works of J.S. Bach. Original compositions in forms of the invention and the fugue. Prerequisites: MUS 211-212. *2 sem. hrs.*
- MUS 312. SIXTEENTH-CENTURY COUNTERPOINT: Study of the medieval modes and the vocal polyphony of the motet and the Mass, up to and including five-part writing; original student compositions. Prerequisite: Permission of the instructor. *2 sem. hrs.*
- MUS 313. ADVANCED AURAL SKILLS: Advanced training in dictation, solfège and aural analysis. Prerequisite: MUS 215 or permission of instructor. *2 sem. hrs.*
- MUS 314. SCORE READING: Training in reading music at the piano from open score. Drill in transposition and reading of various clefs, leading to the realization of full vocal and orchestral scores. Prerequisite: Permission. *2 sem. hrs.*
- MUS 316. FUNDAMENTALS OF ORCHESTRATION: Instrumentation studies of the four main orchestral families: woodwinds, brass, percussion, strings. Some work in combining families. Prerequisite: MUS 212 or permission of instructor. *2 sem. hrs.*
- MUS 318. FUNDAMENTALS OF ARRANGING: Arranging studies for woodwinds, brass, percussion, strings, and choir. Individual examination of instruments; projects. Prerequisite: MUS 212 or permission of instructor. *2 sem. hrs.*
- MUS 321-322. COMPOSITION III: Beginning explorations of original composition which utilize equally the concepts of pitch, temporal elements, timbres, and dynamics. Prerequisite: MUS 214 or permission of instructor. *2 sem. hrs. each*
- MUS 331. CHORAL MUSIC PEDAGOGY: Pedagogical techniques for choral ensembles. Topics include the singing voice, the changing voice, organization, artistic development, and rehearsal techniques. *2 sem. hrs.*
- MUS 332. INSTRUMENTAL MUSIC PEDAGOGY: Pedagogical techniques for band and orchestra. Topics include teaching and rehearsal techniques, learning theories, philosophy, literature, and programming. Field experience will be required. *2 sem. hrs.*
- MUS 333. ORGANIZATION OF THE SCHOOL MUSIC PROGRAM: Survey of techniques and materials necessary for successful organization of the school music program. Topics include budgeting, scheduling, and use of audio-visual materials. *2 sem. hrs.*
- MUS 335. ELEMENTARY MUSIC PEDAGOGY: Pedagogical techniques for classroom music. Topics include the pedagogical methods of Orff, Kodaly, Suzuki, and Dalcroze; lesson-plan design and implementation. *2 sem. hrs.*
- MUS 336. WOODWIND PEDAGOGY: Pedagogical techniques for the woodwind instruments. Separate section for each instrument. Clarinet and flute are full-term courses. Oboe, bassoon, and saxophone courses are 7 weeks long. Fee. *1/2-1 sem. hr.*
- MUS 337. BRASS PEDAGOGY: Pedagogical techniques for the brass instruments. Separate section for each instrument. Trumpet is a full-term course. Horn, trombone, and baritone/tuba courses are 7 weeks long. Fee. *1/2-1 sem. hr.*
- MUS 338. PERCUSSION PEDAGOGY: Pedagogical techniques for the percussion instruments. Fee. *1 sem. hr.*
- MUS 339. STRING PEDAGOGY: Pedagogical techniques for the string instruments. Separate sections for upper strings and lower strings. Each section is a full-term course. Upper strings should be taken before lower strings. Fee. *1 sem. hr.*

MUS 345. CHORAL CONDUCTING: Continuation of techniques introduced in MUS 240, dealing specifically with techniques for choral ensembles. Prerequisite: MUS 240. *2 sem. hrs.*

MUS 346. INSTRUMENTAL CONDUCTING: Continuation of techniques introduced in MUS 240, dealing specifically with techniques for band and orchestra. Prerequisite: MUS 240. *2 sem. hrs.*

MUS 360. SPECIAL TOPICS IN MUSIC: Studies in specialized areas of music. May be repeated as topics change, up to six semester hours. Prerequisite: Permission of instructor. *1-3 sem. hrs.*

MUS 385. MUSIC THERAPY PRINCIPLES: Principles and processes underlying the applications of music in therapy, including writing goals and objectives and treatment plans. Applications of the teaching-learning process, group dynamics, and evaluation and assessment in music therapy. *3 sem. hrs.*

MUS 386. MUSIC THERAPY METHODS AND MATERIALS: Applications of various methods and approaches in psychotherapy, child development, and related fields to the practice of music therapy. Review of the clinical and research literature pertaining to techniques and materials of music therapy. *3 sem. hrs.*

MUS 387. PRACTICUM IN MUSIC THERAPY III: Pre-internship field experiences with handicapped children and/or adults. Corequisite: MUS 385. *1 sem. hr.*

MUS 388. PRACTICUM IN MUSIC THERAPY IV: Pre-internship field experiences with handicapped children and/or adults. Corequisite: MUS 386. *1 sem. hr.*

MUS 390. MUSIC ENSEMBLES: Open to all University students by audition. Required participation by music majors as specified in various degree programs. *0-1 sem. hr.*

MUS 390. MARCHING BAND: Plays at all home and some away football games. Membership includes winds, percussion, twirlers, and Flyerettes. Concentrates on quality sound, offering a wide variety of musical styles. Combines show and corps style elements in presentations. No auditions for winds or percussion. Open to all University students. *0-1 sem. hr.*

MUS 390. PEP BAND: Membership is by audition, and includes winds and percussion only. Performs at all home men's basketball games and some away games. Open to all University students, with priority given to marching band members. *0-1/2 sem. hr.*

MUS 390. UNIVERSITY STRINGS: Ensemble of 20 string players specializing in string orchestra music. *0-1 sem. hr.*

MUS 390. CHAMBER SINGERS: Select ensemble of 16-24 mixed voices which performs chamber music from all style periods in on-campus and off-campus concerts. Audition required. *0-1 sem. hr.*

MUS 390. JAZZ ENSEMBLE: Ensemble specializes in the interpretation and performance of traditional and contemporary big band jazz, including the art of improvisation. *0-1 sem. hr.*

MUS 390. JAZZ COMBO: Small ensemble study of works by major American jazz composers. Emphasis on group and individual improvisation. *0-1/2 sem. hr.*

MUS 390. OPERA WORKSHOP: Performance techniques for the singer-actor through the study and performance of music from operatic literature. *0-1/2 sem. hr.*

- MUS 390. EBONY HERITAGE SINGERS: Ensemble specializing in the sacred music of African Americans with particular emphasis on contemporary gospel music. Open to the entire University community regardless of ethnic background or religious affiliation. No audition required. *0-1/2 sem. hr.*
- MUS 390. CELEBRATION VOCAL TRANSIT: Small ensemble of 13-16 mixed voices which specializes in vocal jazz, pop music and show tunes. Presents several on-campus and off-campus concerts annually. Audition required. *0-1 sem. hr.*
- MUS 390. STRING ENSEMBLE: *0-1/2 sem. hr.*
- MUS 390. PIANO ENSEMBLE: *0-1/2 sem. hr.*
- MUS 390. BRASS ENSEMBLE: Study of repertoire for small brass ensembles including brass quintet, horn ensemble, and others. *0-1/2 sem. hr.*
- MUS 390. PERCUSSION ENSEMBLE: *0-1/2 sem. hr.*
- MUS 390. WOODWIND ENSEMBLE: A combination of woodwind instruments to include flute choir, clarinet choir, saxophone choir, woodwind quintet, and others. *0-1/2 sem. hr.*
- MUS 390. CLASSICAL GUITAR ENSEMBLE: *0-1/2 sem. hr.*
- MUS 390. JAZZ GUITAR ENSEMBLE: *0-1/2 sem. hr.*
- MUS 390. BAROQUE ENSEMBLE: *0-1/2 sem. hr.*
- MUS 390. HANDS IN HARMONY: A sign-singing ensemble. *0-1/2 sem. hr.*
- MUS 392. ADVANCED GUITAR CLASS: Note reading in first position; advanced chord work and introduction to chord solo playing. Prerequisite: MUS 292 or equivalent. Fee. *1 sem. hr.*
- MUS 399. PERFORMANCE STUDIES: Private instruction (one half-hour lesson each week) in piano, voice, organ, violin, viola, cello, bass, flute, oboe, clarinet, bassoon, saxophone, trumpet-cornet, French horn, trombone, baritone, tuba, percussion, harp, harpsichord, classical and pick-style guitar, and jazz lessons in piano, guitar, bass, drums, brass, woodwinds, and improvisation. Prerequisite: Permission of instructor. Fee. *1-2 sem. hrs.*
- MUS 401. MEDIEVAL AND RENAISSANCE MUSIC: The development of music from circa 400 to 1600, including plainchant, early polyphony, Ars Nova, and Renaissance music; the relationship of music to other arts and to its historical context. Open to all University students. *2 sem. hrs.*
- MUS 402. BAROQUE MUSIC: Literature and performing practices from 1600 to 1750; the relationship of music to social and cultural movements. Open to all University students. *2 sem. hrs.*
- MUS 403. CLASSIC AND ROMANTIC MUSIC: Literature and performing practices from 1750 to 1900; the relationship of music to social and cultural movements. Open to all University students. *3 sem. hrs.*
- MUS 404. TWENTIETH-CENTURY MUSIC: A study of 20th-century music, its styles, and its cultural contexts, including post-romantic, impressionistic, neo-classic, and avant-garde. Open to all University students. *2 sem. hrs.*

MUS 405. PIANO LITERATURE I: Comprehensive survey of literature for the piano from the early keyboard music to the romantic period. Required of piano performance majors. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 406. PIANO LITERATURE II: Continuation of comprehensive survey of literature of keyboard music from the romantic period to the present day. Required of piano performance majors. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 413. STYLE AND DESIGN—ANALYSIS: Exploration of appropriate analytical techniques as applied to Western music from the Renaissance to the present. Prerequisite: MUS 212 or permission of instructor. *2 sem. hrs.*

MUS 414. STYLE AND DESIGN—SYNTHESIS: Exploration and application of various musical styles as demonstrated by original compositions patterned after selected historic models. Prerequisite: MUS 413 or permission of instructor. *2 sem. hrs.*

MUS 416. ADVANCED ORCHESTRATION: Continuation of MUS 316. Intensive instrumentation studies and detailed analysis of orchestral work. Prerequisite: MUS 316. *2 sem. hrs.*

MUS 418-419. RESEARCH IN MUSIC THEORY: Practical experience in analysis for music theory or composition majors. Music theory majors enroll in this course while preparing their senior research papers. Prerequisites: Senior standing in music, permission of instructor. *2 sem. hrs. each*

MUS 421-422. COMPOSITION IV: Advanced work in musical composition: writing multi-movement forms of both vocal and instrumental music. Prerequisites: MUS 321-322, permission of instructor. *2 sem. hrs. each*

MUS 423. COMPOSITION FOR LARGE ENSEMBLES: Preparation and execution of an extended work for large instrumental or vocal ensemble. All aspects of score and part preparation, notation, orchestration, correction, rehearsal, and performance will be considered. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 424. ADVANCED NOTATIONAL TECHNIQUES: Study of special problems in contemporary notation and calligraphy. Work will be done through analysis of 20th-century techniques and creative solutions to individual problems. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 425. ELECTRONIC MUSIC COMPOSITION: Study of musical electronic techniques, ranging from tape recorders and musique concrete through synthesizer and computer-generated and organized sound. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 426. IMPROVISATIONAL MUSIC COMPOSITION: Discussion, study, and performance of improvisational musical techniques, including historical overview of classical extemporization, stream of consciousness, jazz, and aleatory and indeterminism. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 430. JAZZ PEDAGOGY: Methods and materials for the organization and teaching of jazz performance classes. Topics include teaching improvisation, the rhythm section, and repertoire for the school jazz band. Corequisite: Participation in the jazz program. *2 sem. hrs.*

- MUS 431. MARCHING BAND PEDAGOGY: Methods and materials for the organization and teaching of the high school marching band. Topics include teaching and rehearsal techniques, drill design, and philosophy. Field experience will be required. Corequisite: Participation in marching band. *2 sem. hrs.*
- MUS 435. PIANO PEDAGOGY I: Systematic preparation for the development of piano technique and tone; survey and study of graded teaching material of grades I and II. Prerequisite: Four terms of piano study or the equivalent. *2 sem. hrs.*
- MUS 436. PIANO PEDAGOGY II: Continuation of MUS 435 through the material of grades III and IV. Prerequisite: MUS 435 or five terms of piano study or equivalent. *2 sem. hrs.*
- MUS 439. SEMINAR IN MUSIC EDUCATION: Problem solving for the music teacher. Group discussion of topics arising from the student teaching experience. Corequisite: EDT 422. *3 sem. hrs.*
- MUS 440. ADVANCED INSTRUMENTAL CONDUCTING: Individualized instruction dealing with advanced analysis, interpretation, aural skills, repertoire study, and conducting. Prerequisite: MUS 346. *2 sem. hrs.*
- MUS 450. CHORAL LITERATURE FOR THE CHURCH: Survey of music appropriate for several types of church choirs and for the liturgical seasons; examination of the role of the choir and director in worship. Prerequisite: MUS 240. *3 sem. hrs.*
- MUS 451. HYMNODY AND PSALMODY: Survey of hymnody from medieval to modern times and of various denominations. Survey of psalm settings, with emphasis on those appropriate for congregational participation. *2 sem. hrs.*
- MUS 459. CHURCH MUSIC INTERNSHIP: Minimum of one semester's supervised service as organist and/or choral director in an approved parish setting. Prerequisites: Completion of half of certificate requirements; permission. *2 sem. hrs.*
- MUS 460. SPECIAL STUDIES IN MUSIC: Studies in specialized areas of music, including music therapy and music education. May be repeated as topics change, up to nine semester hours. Prerequisite: Senior standing in music or permission of instructor. *1-9 sem. hrs.*
- MUS 485. PSYCHOLOGICAL FOUNDATIONS OF MUSIC I: Study of the psychosocio-physiological processes involved in responses to music and sound. Acoustical properties of music and physiology of sound perception. Nature of music ability and its measurement. Prerequisites: PSY 101, junior standing in music. *2 sem. hrs.*
- MUS 486. PSYCHOLOGICAL FOUNDATIONS OF MUSIC II: Introduction to research methods; review of literature on experimental studies. Research project. Prerequisite: MUS 485. *2 sem. hrs.*
- MUS 489. MUSIC THERAPY INTERNSHIP: Minimum of 6 months supervised clinical training through resident internship in an NAMT-approved program. This precedes the granting of the degree. Prerequisites: Senior standing in music therapy; permission. *2 sem. hrs.*
- MUS 491. MIAMI VALLEY SYMPHONY: Performing ensemble of string, wind, brass, and percussion players; preparing literature for orchestra and chamber orchestra. Open to all University community members by audition. *0-1 sem. hr.*

MUS 492. UNIVERSITY WIND ENSEMBLE: Select band that performs the finest in wind literature. Presents regular concerts during fall and winter terms. *0-1 sem. hr.*

MUS 493. UNIVERSITY CHORALE: Mixed vocal ensemble performing music from all style periods in regular concert appearances. Open to all University students. *0-1 sem. hr.*

MUS 499. PERFORMANCE STUDIES: Private instruction (1-hr lessons weekly) in the same subjects as MUS 399. Prerequisite: Permission of instructor. *4 sem. hrs.*

MUS 560. SPECIAL STUDIES IN MUSIC: Studies in specialized areas of music. Prerequisite: Permission of instructor. *1-4 sem. hrs.*

*General Education course. See Chapter V.

MUSIC FEES: The following fees include practice privileges. This fee schedule is subject to change by the Department of Music.

	<i>Fee per term</i>
Small group instruction in various instruments (MUS 196-199, 237, 238, 239, 292, 293, 294, 296-299, 336, 337, 338, 339, 392)	\$ 40.00
MUS 399 Performance Studies: One 30-minute lesson weekly	\$ 100.00
MUS 499 Performance Studies: One 60-minute lesson weekly	\$ 180.00



NUCLEAR MEDICINE TECHNOLOGY (NMT)

The program leading to a Bachelor of Science with a major in Nuclear Medicine Technology consists of three years of preclinical instruction at the University of Dayton and a twelve-month didactic and clinical curriculum off campus. The University is affiliated with the Nuclear Medicine Institute (NMI) at the University of Findlay, Findlay, Ohio, for the senior-year curriculum. A student must complete 92-100 preclinical semester hours before beginning the NMI program. The NMI is accredited by the Committee on Allied Health Education and Accreditation (CAHEA). Completion of the NMI program qualifies students to take a national examination so as to become certified nuclear medicine technologists. The curriculum is planned to meet the requirements of the University of Dayton, the NMI, and the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The student must complete all preclinical semester hours before entering a fourth-year program at the NMI.

CLINICAL YEAR

Acceptance into the fourth-year program at the University of Findlay is competitive. Students make formal applications to the NMI in the fall term of the junior year. Acceptance is based on preclinical grades (minimum C+ average over all and in the sciences), recommendation letters, motivation, and knowledge of the profession. Personal interviews are not required. The fourth-year program lasts twelve months and has two separate phases. The didactic component consists of formal lectures, student laboratories, and seminars conducted at the NMI from September to December. The eight-month clinical component that follows consists of preceptorship experiences conducted in a department of nuclear medicine at one of the hospital affiliates of the NMI (in Ohio and surrounding states). Upon completion of the fourth year, students are granted the Bachelor of Science with a major in Nuclear Medicine Technology at the University's winter commencement exercises.

Tuition and fees for the entire fourth year are established by the NMI. Students will pay their NMI tuition and fees through the University of Dayton. The University will charge the students the Basic University Fee for Terms I and II. Specific information on such matters as fourth-year tuition and fees, room and board, book costs, dress codes, and grading policies is in the NMI information brochures available in the health professions office.

PROGRAM S10C: BACHELOR OF SCIENCE WITH A MAJOR IN NUCLEAR MEDICINE TECHNOLOGY (NMT)¹

<i>Preclinical Years</i>	<i>Semester Hours</i>
Required science and mathematics courses	54-55
BIO 151, 152, 152L, 309, 309L, 403, 403L	16
CHM 123, 123L, 124, 124L, 201, 201L, 313, 313L, 314, 314L	20
PHY 201, 201L, 202, 202L	8
MTH 148 ² , 207	6-7
MET 201L	1
CPS 144 or equivalent	3

Communication skills	6-12
CMM 101	0-3
ENG 101-102 or 114 or 198; ENG elective	6-9
Philosophy and religious studies	12
Humanities	9
Social and behavioral sciences	9
General elective	3
First-year experience: ASI 150	0-1
Preclinical semester-hour total	93-101

Clinical Year

NMT semester hours at the NMI and affiliated hospital	38
First Term: NMT 430, 431, 432, 433, 434, 435, 436	20
Second Term: NMT 431L, 435L, 436L	12
Third Term: NMT 437	6

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²If background is not suitable for calculus, then substitute MTH 116, Precalculus, for MTH 148.

FACULTY

Suzanne L. Columbus, *University Program Director*
 Clinical Assistant Professor: Markon

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program S10C, are described under the individual departments. The senior year is conducted at affiliated hospitals.

NMT 430. INTRODUCTION TO NUCLEAR MEDICINE TECHNOLOGY SCIENCE: Topics include medical terminology, cardiopulmonary resuscitation (CPR), emergency medical procedures, medical ethics, and terminology specific to the field of nuclear medicine. 1 sem. hr.

NMT 431. NUCLEAR SCINTIGRAPHY: Theoretical aspects of nuclear medicine imaging procedures including applicable pathophysiology, technical aspects for data acquisition, and computer analysis of data as well as systemic radionuclide therapy procedures. 3 sem. hrs.

NMT 431L. CLINICAL NUCLEAR SCINTIGRAPHY LABORATORY: Practical applications related to NMT 431. 6 sem. hrs.

NMT 432. RADIATION PHYSICS: Applicable aspects of nuclear and atomic physics covered in theory and mathematical formulae. Theoretical topics include atomic and nuclear structure, radioactive decay, interactions with matter, and radionuclide production methods. Mathematical concepts are the decay equation, dose calculations, inverse square law, shielding formula, radioactive equilibrium, and radiation dosimetry. 5 sem. hrs.

NMT 433. NUCLEAR MEDICINE INSTRUMENTATION: Basic principles of both in vitro and in vivo instrumentation. The design, operation, and quality control of gas detectors and scintillation detectors; survey equipment, spectrometers, and stationary imaging devices with their application to nuclear medicine. Laboratory experience with single channel analyzers and Anger cameras. *5 sem. hrs.*

NMT 434. RADIATION BIOLOGY AND RADIATION PROTECTION: Topics in radiobiology include ionization and energy transfer; the molecular, cellular, tissues and organ responses to radiation; and acute and chronic effects of radiation. Topics in radiation protection include licensing requirements, guidelines for radiation protection, governing agencies, radiation signs, record keeping, personnel and area monitoring, radionuclide receipt, storage, and disposal, and management of clinical radiation spills. *2 sem. hrs.*

NMT 435. RADIOISOTOPES IN RADIOASSAY: Topics include the basic principles of immunology, various types of radioassays, sensitivity and specificity of procedures, proper test protocol and procedures, pathology of various tests, and normal values. Nonimaging laboratory studies such as venipuncture, blood volumes, red cell studies, and gastrointestinal absorption studies. *2 sem. hrs.*

NMT 435L. RADIOASSAY LABORATORY: Practical applications related to NMT 435. *3 sem. hrs.*

NMT 436. RADIOPHARMACEUTICALS: Topics include tracer theory, pharmacological actions, localization methods, radiopharmaceutical properties, radionuclide generators, radiopharmaceutical preparations and quality control, and transient vs. secular equilibrium. All routinely used radiopharmaceuticals are discussed. *2 sem. hrs.*

NMT 436L. RADIOPHARMACEUTICAL LABORATORY: Practical applications related to NMT 436. *3 sem. hrs.*

NMT 437. CLINICAL NUCLEAR MEDICINE: Completion of 1,400 hours of supervised clinical training at an affiliate hospital. Instruction and participation in the performance of various clinical nuclear medicine procedures, patient care, administrative duties, radiopharmaceutical preparation and quality control, equipment quality control, quality assurance, and radiation safety. *6 sem. hrs.*

PHL

PHILOSOPHY (PHL)

The objective of the philosophy major program is to provide students with the opportunity to understand contemporary philosophy in view of the history of philosophy. Students majoring in philosophy must successfully complete a minimum of 33 semester hours as described below in program A12.

The philosophy minor consists of 18 semester hours of coursework, at least 12 of which must be at the 300-400 level. Required courses are 103, 201 or 302, 350 or 351 or 352, one 400-level seminar, and 6 additional semester hours at the 300-400 level. Courses in logic and the history of philosophy are prerequisites for 400-level seminars.

PROGRAM A12: BACHELOR OF ARTS WITH A MAJOR IN PHILOSOPHY (PHL)¹

	<i>Semester Hours</i>
Philosophy	33
<i>Major Requirements:</i> PHL 103, 302, 350, 352, and any four 400-level seminars; 9 additional sem. hrs. at the 300-400 level. Courses in logic and the history of philosophy are prerequisites for 400-level seminars.	
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Religious studies	9
Foreign language or quantitative skill courses ²	6-8
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²Either 6-8 sem. hrs. in a foreign language or 6 sem. hrs. in quantitative skills courses (e.g., computer science, statistics, or mathematics) beyond the basic skills mathematics requirement. Where appropriate, this credit may apply to other requirements.

FACULTY

Patricia A. Johnson, *Chairperson*

Professors Emeriti: Dieska, Nersoyan, Rhodes

Professors: Herbenick, Johnson, Kunkel, Monasterio, Tibbetts, Ulrich, Zembaty

Associate Professors: Benson, Payne, Quinn, Richards

Assistant Professors: Fischer, Fouke, Inglis, Luke, Mosser

Instructors: Mullins

COURSES OF INSTRUCTION

- PHL 103. INTRODUCTION TO PHILOSOPHY: Introduction to philosophical reflection and study of some central philosophical questions in the Western intellectual tradition, including questions of ethics, human knowledge, and metaphysics. Readings from major figures in the history of philosophy such as Plato, Aristotle, Augustine, Aquinas, Descartes, Hume, and Kant. This course is a prerequisite for all other PHL courses except PHL 201. *3 sem. hrs.*
- * PHL 201. PRACTICAL LOGIC: Introduction to the principles of correct reasoning; techniques for the evaluation of arguments; common fallacies in argumentation; applications to current issues in ethics and other areas. *3 sem. hrs.*
- PHL 302. SYMBOLIC LOGIC: Concentrated study of the valid forms of deductive argument and proof in the propositional logic and in predicate logic; study of formal systems and of logic and language. *3 sem. hrs.*
- * PHL 304. PHILOSOPHY OF HUMAN NATURE: The nature of human beings; the functions of consciousness, the possibility of freedom, the sources of values, and the goals of human life. *3 sem. hrs.*
- * PHL 306. PHILOSOPHY OF KNOWLEDGE: Various criteria, origins, and definitions of knowledge proposed by common sense, science, philosophy, and mysticism; questions of evidence, consistency, and validity pertaining to the problem of truth and belief. *3 sem. hrs.*
- * PHL 307. PHILOSOPHY AND WOMEN: Issues and problems related to feminist analysis of society and its ideals, such as equal opportunity, sex roles and gender, reverse discrimination, violence, and language. *3 sem. hrs.*
- * PHL 308. METAPHYSICS: Issues and problems under such topics as appearance and reality; universals; relations of mind and matter; the nature of persons and personal identity; causality; freedom and determination. *3 sem. hrs.*
- * PHL 309. PHILOSOPHY OF MIND: An analysis of the concept of mind and allied issues such as the nature of human agency, autonomy, weakness of will, self-deception, and the rationality of emotions. *3 sem. hrs.*
- * PHL 310. SOCIAL PHILOSOPHY: The concepts of liberty, justice, and equality as they relate to social problems such as punishment and rehabilitation, insanity and responsibility, privacy, population regulation, economic injustice, environmental degradation, discrimination, and reverse discrimination. *3 sem. hrs.*
- * PHL 311. PHILOSOPHY OF RELIGION: The main issues involved in religious belief and practice, such as the relationship between reason and revelation; critical presentation of views of main writers in the field. *3 sem. hrs.*
- * PHL 312. ETHICS: Various types of moral and ethical theory in the Western tradition and major problems such as the extent of human responsibility and the conditions for making ethical judgments. *3 sem. hrs.*
- * PHL 313. BUSINESS ETHICS: Review of general ethical theory; ethical assessments of incidents that often occur in commerce affecting employees, employers, consumers, competitors, or the local community. *3 sem. hrs.*
- * PHL 314. PHILOSOPHY OF LAW: Major concepts of law to include the nature of law, legal reasoning, liberty, justice, responsibility, punishment. *3 sem. hrs.*

- * PHL 315. MEDICAL ETHICS: Introduction to morality in general and inquiry into the major moral problems of medical practice: human life and the preservation of its integrity. *3 sem. hrs.*
- * PHL 316. ENGINEERING ETHICS: Introduction to ethical issues in engineering by developing theories of moral justification and codes of ethics for engineers, and by applying these theories and codes to moral issues in engineering. *3 sem. hrs.*
- * PHL 317. ETHICS AND MODERN WAR: Study in applied ethics focusing on three aspects of the arms race: declassified data on the reality of the nuclear arms buildup; normative analysis of such themes as war, pacifism, just cause, deterrence, and nuclear proliferation; and moral assessment of alternatives for the future. *3 sem. hrs.*
- * PHL 318. FAMILY ETHICS: Introduction to the development of the concept of a family in the tradition of Western philosophy and the philosophic analysis of contemporary ethical problems in marriage and in parenthood. *3 sem. hrs.*
- * PHL 319. INFORMATION ETHICS: Examination of ethical principles, codes, cases, incidents, and issues in the design, implementation, and use of computerized information systems. *3 sem. hrs.*
- * PHL 320. PHILOSOPHY OF ART: Theories of art and criteria of evaluation developed by philosophers, artists, and critics; the relationship between art and society and between artistic and other human values. *3 sem. hrs.*
- * PHL 321. ENVIRONMENTAL ETHICS: Study of the principal ethical perspectives on the treatment of animals and nature including such issues as agriculture, energy, pollution, and economics; assessment of political responses to current environmental problems. *3 sem. hrs.*
- * PHL 323. PHILOSOPHY AND LITERATURE: Critical examination of philosophical concepts in selected literary masterpieces, ancient and modern. *3 sem. hrs.*
- * PHL 325. PHILOSOPHY OF MUSIC: Examination of theories on the meaning of music; experiencing music as composer, performer, and listener; aesthetic criteria; moral effect of music. *3 sem. hrs.*
- * PHL 327. PHILOSOPHY OF PEACE: Examination of human violence and ethical justifications for war and exploration of resolutions for human conflict in processes such as pacifism, peacemaking, democratic world governance, nonviolent caring, and a sustainable economy. *3 sem. hrs.*
- * PHL 330. PHILOSOPHY OF SCIENCE: Study of the presuppositions and implications of scientific inquiry from a humanistic viewpoint; explanation in science, the relation between facts and theories, and problems of verification. *3 sem. hrs.*
- * PHL 331. SCIENCE, OBJECTIVITY, AND VALUES: Study of three interrelated issues: the limits of scientific methodology; science as a social institution; and science and human values. *3 sem. hrs.*
- * PHL 332. TECHNOLOGY AND VALUES: Study of the social impact of technology — scientists' responsibility; technological change and social change; the "technological fix"; democracy and the new technological elite; counter-culture critiques of technology. *3 sem. hrs.*

- PHL 340. SPECIAL PROBLEMS IN PHILOSOPHY: Examination of perennial and contemporary problems of philosophy. May be repeated when topic varies. *3 sem. hrs.*
- * PHL 344. CORE SEMINAR IN PHILOSOPHY: Culminating course for students in CORE; discussion of selected readings on the issue of human values in a pluralistic society in such areas as wealth and poverty, education, and war and peace. Open only to students in CORE. *3 sem. hrs.*
- * PHL 345. HONORS SEMINAR IN PHILOSOPHY: Study and seminar discussion of selected major philosophical works and of the analysis, interpretation, and criticism of these works. Open by permission only to students in the University Honors Program. *3 sem. hrs.*
- * PHL 350. CLASSICAL GREEK PHILOSOPHY: The Greek origins of Western scientific, philosophical, and political thought; relationships to current thought; ideas of the pre-Socratics, Plato, and Aristotle in their cultural contexts. *3 sem. hrs.*
- * PHL 351. MEDIEVAL PHILOSOPHY: Major philosophical problems from the 4th through the 16th centuries and their importance in shaping current beliefs and traditions in the Augustinian, Jewish, Islamic, Persian, Thomist, and Oxford cultural settings; human action, conscience, freedom, and law. *3 sem. hrs.*
- * PHL 352. MODERN PHILOSOPHY: Development of philosophy in the 17th, 18th and 19th centuries, with emphasis on problems in the theory of knowledge, the philosophy of mind, and the relation between knowledge and human action for their impact on later philosophy. *3 sem. hrs.*
- * PHL 353. CONTEMPORARY PHILOSOPHY: A study of some of the major philosophical movements in the 20th century including phenomenology, existentialism, critical theory (Frankfurt School), hermeneutics, and analytic philosophy. *3 sem. hrs.*
- * PHL 355. EASTERN PHILOSOPHY: Introduction to the ways of Asian wisdom considering Oriental philosophy as a specialized learning directed to the attainment of enlightenment and equanimity. Comparisons with Western traditions. *3 sem. hrs.*
- * PHL 356. CHRISTIAN PHILOSOPHY: Major issues such as the relation of faith to reason, the relation of science to faith, and the problem of natural law; works by contemporary philosophers such as Kierkegaard, Marcel, Maritain, Noonan, and Plantinga. *3 sem. hrs.*
- * PHL 358. MARXIST PHILOSOPHY: Introduction to the thought of Karl Marx through a study of the historical setting of the man and his writings, along with recent interpretations of his thought. *3 sem. hrs.*
- * PHL 359. PHENOMENOLOGY: The historical origin of phenomenology, its nature, goals, and scope; impact on the social sciences, psychology, and psychiatry with emphasis on the thought of Husserl and his students. *3 sem. hrs.*
- * PHL 360. EXISTENTIALISM: Major themes in representatives of the existentialist movement, such as human freedom, the absurdity of human existence, the primacy of action, and the roles of speculation and the emotions. *3 sem. hrs.*
- * PHL 361. AMERICAN PHILOSOPHY: Introduction to selected writings of such classical American thinkers as Thoreau, James, Mead, Dewey, Santayana, and Whitehead. Topics include knowledge, freedom, and human values. *3 sem. hrs.*

PHL 362. PHILOSOPHY OF LANGUAGE: Theories of meaning and reference and their philosophical significance. *3 sem. hrs.*

PHL 390. SUMMER NONRESIDENCE COURSE: A course designed for those students regularly enrolled at the University of Dayton who cannot attend classes in the third term and are in good academic standing. Topics are determined by the professor. Prerequisite: Three sem. hrs. of philosophy. *3 sem. hrs.*

PHL 440. SEMINAR—ADVANCED PROBLEMS IN PHILOSOPHY: Detailed examination of some of the more technical problems of philosophy as well as those problems that arise in interdisciplinary settings upon which philosophers have brought their technical skills to bear. May be repeated when topic varies. *3 sem. hrs.*

PHL 451. SEMINAR IN INDIVIDUAL PHILOSOPHERS: Detailed examination of the thought of an individual philosopher (e.g., Aquinas, Kant, Rawls, Quine) who is of sufficient importance to warrant special study. May be repeated when topic varies. *3 sem. hrs.*

PHL 461. SEMINAR—CONTEMPORARY EPISTEMOLOGY: Study of recent philosophical work in the theory of knowledge inclusive of scepticism, knowledge and belief, evidence and justification, theories of perception and knowledge, human interests and valuation. *3 sem. hrs.*

PHL 462. SEMINAR—CONTEMPORARY ETHICS: Study of recent philosophical work in ethics inclusive of an analysis of ethical concepts, theories of normative ethics, theories of human action, and moral justification. *3 sem. hrs.*

PHL 463. SEMINAR—CONTEMPORARY METAPHYSICS: Study of recent work in metaphysics inclusive of the nature of metaphysics, causality, free will and determinism, personal identity and the theory of mind and body. *3 sem. hrs.*

PHL 490. DIRECTED READINGS: Guided independent study primarily for philosophy majors but open to students who have completed 12 sem. hrs. in philosophy. Normally, 3 sem. hrs., but in certain cases the chairperson may approve 1, 2, or 4 sem. hrs. May be repeated when topic varies. Prerequisite: Permission of the instructor and the chairperson. *3 sem. hrs.*

*General Education course. See Chapter V.

PHYSICAL SCIENCE (PSC)

The Physical Science Program is administered by the Department of Physics. It provides a broad training in the physical sciences that is desirable for one who plans to pursue a goal built on a composite science background. The physical science major combines adequate physics, chemistry, geology, and mathematics to provide a sound working knowledge of physical science. Since the program is less specialized than one in a single science, it has provision for adequate course selections and sufficient electives to provide the opportunity for concentrated study in a discipline chosen to meet the career objectives of the individual student.

PROGRAM S11: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICAL SCIENCE (PSC)¹

	<i>Semester Hours</i>
Basic physics: PHY 206, 207, 208, 210L, 211L, 214	13
Basic chemistry: CHM 123, 123L, 124, 124L	8
Basic geology: GEO 115, 115L, 116, 116L	8
Basic mathematics: MTH 116, 168, 169, 218, 219	19
Upper-level physical sciences (at least 12 sem. hrs. in physics)	24
Philosophy and religious studies	12
Humanities	9
Social and behavioral sciences	6
Communication skills	3-9
Computer Science: CPS 132 or 144	3
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.



PHY

PHYSICS (PHY)

The program leading to the Bachelor of Science with a major in Physics is designed to provide a strong yet versatile basis for a subsequent scientific career or advanced study. Minimum requirements for all majors are listed below, but students planning for graduate work in physics or an allied area are advised to select additional mathematics and physics courses. A physics major must complete all 300-400-level courses with a 2.0 minimum grade-point average.

Students in other disciplines who wish to minor in physics may take 12 semester hours of any upper-level physics courses.

PROGRAM S12: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICS (PHY)¹

	<i>Semester Hours</i>
Physics	37
Basic courses: PHY 206, 207, 208, 210L, 211L, 214	13
PHY 301, 303, 314, 390, 408, 430, 431, and 300-400-level electives	24
Mathematics: MTH 168, 169, 218, 219, 302	18
Chemistry: CHM 123, 124, and associated laboratories	8
Philosophy and religious studies	12
Humanities	9
Social and behavioral sciences	6
Communication skills	3-9
Computer Science: CPS 132 or 144	3
Minor (300-400-level courses) if chosen	12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹Consult General Requirements for all Bachelor of Science Programs and Chapter V for General Education Requirements.

The combined program in physics and computer science leading to the Bachelor of Science with a major in Physics-Computer Science emphasizes the use of computer software in scientific applications and at the same time gives a foundation in the scientific disciplines of physics and computer science. Minimum requirements for the degree are listed below. Students are advised to select additional computer science, mathematics, and physics courses as electives.

PROGRAM S12A: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICS-COMPUTER SCIENCE (PCS)¹

	<i>Semester Hours</i>
Computer Science	27
CPS 150, 151, 250, 346, 350, 353, and two additional courses numbered above 340. Additional numerical analysis courses are recommended.	
Mathematics: MTH 168, 169, 218, 219, 302	18

Physics	27-30
PHY 206, 207, 208, 210L, 211L, 214, 314, and five additional courses numbered above 300, including a course in computational physics. In addition, a senior project involving some application of computers in physics is recommended.	
Communication skills	3-9
Humanities	9
Social and behavioral sciences	6
Philosophy and religious studies	12
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹Consult General Requirements for all Bachelor of Science Programs and Chapter V for General Education Requirements.

FACULTY

J. Michael O'Hare, *Chairperson*

Distinguished Professor: Bueche

Professor Emeritus: Mann

Professors: Graham, Kepes, Miner, O'Hare, Yaney

Associate Professors: Berney, Craver

Assistant Professors: Brecha, Erdei, Pedrotti

COURSES OF INSTRUCTION

PHY 100. SEMINAR: Opportunity to become acquainted with the broad spectrum of modern science through periodic meetings with the entire department. Invited speakers, films, student presentations, book reviews, and informal discussions. For all physics and physical science majors. *No credit*

* PHY 105. PHYSICAL SCIENCE: Broad introduction to physical science. Emphasis on concepts and scientific thought processes in dealing with principles in physics; some applications to chemistry, astronomy, and meteorology. This course includes an integrated laboratory component. For nonscience students. Prerequisite: None. *4 sem. hrs.*

* PHY 108. PHYSICAL SCIENCE OF LIGHT AND COLOR: A treatment of physical science with emphasis on light, color, and the interaction of light with materials. For nonscience students. Prerequisite: None. *3 sem. hrs.*

PHY 108L. LIGHT AND COLOR LABORATORY: Laboratory experiences to accompany PHY 108. *1 sem. hr.*

* PHY 201. GENERAL PHYSICS: Topics from mechanics, thermal and mechanical properties of matter, wave motion and sound, and electricity without the formalism of calculus. First term, each year. *3 sem. hrs.*

PHY 201L. GENERAL PHYSICS LABORATORY: Introductory laboratory appropriate for students of the health sciences. Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period each week. First term, each year. Corequisite: PHY 201 or 206. *1 sem. hr.*

- * PHY 202. GENERAL PHYSICS: Continuation of PHY 201 with a treatment of electricity and magnetism, wave motion and properties of light, atomic and nuclear physics. Prerequisite: PHY 201. Second term, each year. *3 sem. hrs.*
- PHY 202L. GENERAL PHYSICS LABORATORY: Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period per week. Second term, each year. Prerequisite: PHY 201L. *1 sem. hr.*
- * PHY 203. MODERN TECHNICAL PHYSICS: Introduction to selected topics in modern physics without the formalism of calculus. For engineering technology students. Prerequisites: Trigonometry, college algebra, and introductory statics and dynamics. *3 sem. hrs.*
- PHY 203L. TECHNICAL PHYSICS LABORATORY: Laboratory experiences to accompany PHY 203. *1 sem. hr.*
- PHY 204. INTRODUCTION TO MEDICAL ELECTRONIC INSTRUMENTATION: Laboratory course introducing basic physical principles and practices encountered in the operation of some electronic instrumentation used in medical technology. For medical technology students. Prerequisite: None. *1 sem. hr.*
- * PHY 206. GENERAL PHYSICS I—MECHANICS: Introductory course in mechanics. Calculus concepts developed as needed. Three lectures, one recitation each week. Corequisite: MTH 148 or 168. *3 sem. hrs.*
- * PHY 206H. GENERAL PHYSICS I—MECHANICS (HONORS): Introductory course in mechanics for students with a strong background in physics. Three lectures, one recitation each week. By invitation only. *3 sem. hrs.*
- * PHY 207. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM: The basic principles of electricity and magnetism. Three lectures, one recitation each week. Prerequisites: PHY 201 or 206, MTH 149 or 168. *3 sem. hrs.*
- * PHY 207H. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM (HONORS): Basic principles of electricity and magnetism. Three lectures, one recitation each week. By invitation only. *3 sem. hrs.*
- * PHY 208. GENERAL PHYSICS III—MECHANICS OF WAVES: Introduction to wave phenomena (including sound, light, and matter waves) leading to basic concepts in modern physics. Prerequisites: PHY 202, MTH 149; or PHY 207, MTH 169. *3 sem. hrs.*
- * PHY 208H. GENERAL PHYSICS III—MECHANICS OF WAVES (HONORS): Introduction to modern physics through a study of wave phenomena including sound, light, and matter waves. By invitation only. *3 sem. hrs.*
- PHY 210L. GENERAL PHYSICS LABORATORY I: Introduction to laboratory methods, handling of data, and analysis of results. Experiments appropriate to the background of students with an interest in mathematical and physical sciences. Two hours laboratory, one hour recitation each week. Corequisite: PHY 206. *1 sem. hr.*
- PHY 211L. GENERAL PHYSICS LABORATORY II: Laboratory methods, data handling, and analysis of results. Experiments appropriate to the background of students with an interest in mathematical and physical sciences. Two hours laboratory, one hour recitation each week. Prerequisite: PHY 210L. *1 sem. hr.*
- PHY 214. ELECTRONICS FOR SCIENTISTS I: Introduction to electronic circuits with a consideration of D.C. and A.C. circuit analysis, diodes, bipolar and field-effect transistors, and other semiconductor circuit devices. Demonstrations and bench-top experience. Prerequisite: PHY 211L or 202L, or equivalent. *2 sem. hrs.*

- * PHY 250. DESCRIPTIVE ASTRONOMY: Descriptive survey for students who have had little or no previous exposure to astronomy; material from ancient times to present, including pulsars and quasi-stellar objects. Prerequisite: None. 3-4 sem. hrs.
- PHY 299. SPECIAL PROBLEMS: Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite. 1-4 sem. hrs.
- PHY 301. THERMAL PHYSICS: Thermodynamical descriptions of many particle systems obtained from microscopic statistical considerations; laws of thermodynamics, kinetic theory of dilute gases, and Fermi-Dirac and Bose-Einstein statistics. Prerequisite: PHY 208. Corequisite: MTH 219. 3 sem. hrs.
- PHY 303. INTERMEDIATE MECHANICS I: The fundamental concepts of mechanics: virtual work, kinematics, special theory of relativity, Lagrange's equation and central forces, particle dynamics. Prerequisite: PHY 208. Corequisite: MTH 219. 3 sem. hrs.
- PHY 314. ELECTRONICS FOR SCIENTISTS II: Continuation of PHY 214; thyristors such as SCR, linear IC, digital IC, and other discrete and integrated semiconductor circuit devices. Demonstrations and bench-top experience. Prerequisite: PHY 214. 2 sem. hrs.
- PHY 321. ATOMIC AND NUCLEAR PHYSICS: Concepts and models of the structure of matter; atoms, ions, electrons and nuclei, radioactivity, interactions of radiation with matter, particle detection, accelerators, nuclear models, nuclear reactions and processes, and fundamental particles. Prerequisite: PHY 208 or consent of instructor. 3 sem. hrs.
- PHY 390. INTRODUCTION TO QUANTUM MECHANICS: Basic postulates of quantum mechanics with applications made to atomic physics. Prerequisites: PHY 208, MTH 219, 302. 3 sem. hrs.
- PHY 395. RESEARCH PARTICIPATION I: Individual projects conducted as part of the physics Undergraduate Research Participation program to encourage involvement of students with faculty researchers. Projects must be arranged in advance with faculty research directors. 1-6 sem. hrs.
- PHY 399. SPECIAL PROBLEMS IN (NAMED AREA): Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite. 1-4 sem. hrs.
- PHY 403. INTERMEDIATE MECHANICS II: Emphasis on solving physical problems; noninertial coordinate systems, rigid body motion, rotating systems, coupled systems, introductory fluid statics and dynamics, normal coordinates, and the descriptions of mechanics appropriate for the transition to wave mechanics. Prerequisite: PHY 303. 3 sem. hrs.
- PHY 404. PHYSICAL OPTICS: The electromagnetic wave theory of light, propagation of waves, reflection, refraction, dispersion, polarization, dichroism, birefringence, superposition of waves, interference, diffraction, Fourier optics. Prerequisites: PHY 208, MTH 219. 3 sem. hrs.
- PHY 408. INTERMEDIATE ELECTRICITY AND MAGNETISM I: Electrostatics, Coulumb's law, Gauss's law, potential, dielectric materials, electrostatic energy, solutions to Laplace's and Poisson's equations, Biot-Savart law, Faraday induction law, magnetization, and Maxwell's equations. Prerequisites: PHY 208, MTH 219. 3 sem. hrs.
- PHY 409. INTERMEDIATE ELECTRICITY AND MAGNETISM II: Further study of electric and magnetic fields with emphasis on solving problems; Maxwell's equations, propagation of electromagnetic waves, electromagnetic radiation. Prerequisite: PHY 408. 3 sem. hrs.

PHY 420. INTRODUCTION TO SOLID STATE: Classification of solids, crystals and crystal structures, survey of lattice properties, free electron theory, band theory of solids, semi-conductors, and crystal imperfections. Prerequisites: PHY 208, MTH 219.

3 sem. hrs.

PHY 430-431-432-433. ADVANCED LABORATORY: Experimental investigations based on principles from atomic and nuclear physics, electricity and magnetism, modern and classical optics, mechanics, solid state, cryogenics, x-ray diffraction, surface physics, or electronics. Not all experiments available every semester; consult chairperson for details. Prerequisite: PHY 214. Corequisite: An advanced course in physics.

2 sem. hrs. each

PHY 440. QUANTUM MECHANICS II: Study of selected principles in quantum mechanics. Prerequisite: PHY 390.

3 sem. hrs.

PHY 411. TOPICS IN MODERN PHYSICS: Elements of modern optics, solid state and other selected subjects. Consult chairperson for details. Prerequisite: PHY 390 or equivalent.

3 sem. hrs.

PHY 460. SEMINAR: Presentation of papers by undergraduate students, faculty, and guest lecturers on topics of concern to the modern physicist. Reviews of books and films appropriate to the group.

1 sem. hr.

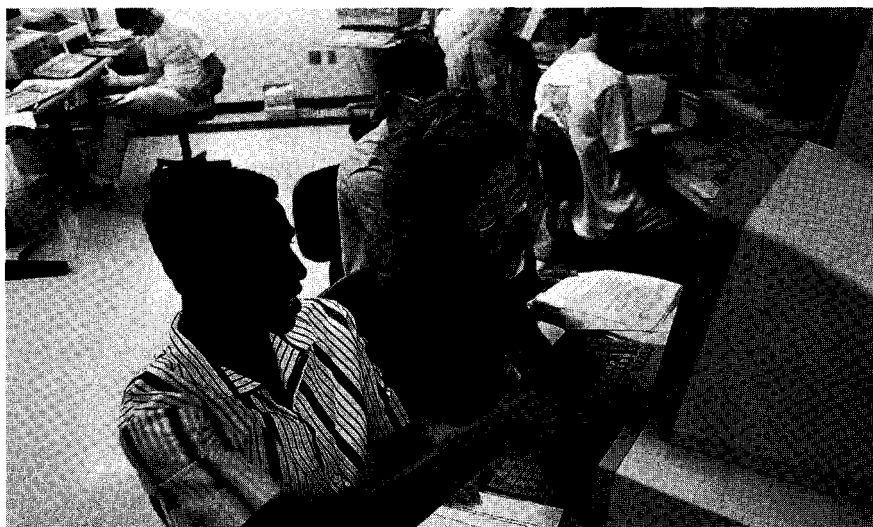
PHY 495. RESEARCH PARTICIPATION II: Individual projects conducted as part of the physics Undergraduate Research Participation program to encourage involvement of students with faculty researchers. Projects must be arranged in advance with faculty research directors.

1-6 sem. hrs.

PHY 499. SPECIAL PROBLEMS IN (NAMED AREA) (HONORS): Laboratory, tutorial, or library work in one of such selected topics as solid state physics, polymers, atomic and nuclear physics, modern optics, theoretical physics, surface physics, or general physics. Prerequisite: Permission of department chairperson.

1-6 sem. hrs.

*General Education course. See Chapter V.



POL

POLITICAL SCIENCE (POL)

A major in political science requires 36 semester hours of political science courses.

A minor in political science includes POL 201 and four 300-400-level courses selected by the student to strengthen academic or career objectives.

PROGRAM A13: BACHELOR OF ARTS WITH A MAJOR IN POLITICAL SCIENCE (POL)¹

	<i>Semester Hours</i>
Political science	36
POL 201, 202 or 214, 207, 317, and 24 additional sem. hrs. including 18 sem. hrs. at the 300-400 level (Students in the prelaw concentration may replace POL 207 with ACC 207-208.)	
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

MINORS AND AREA CONCENTRATIONS FOR MAJORS

A student majoring in political science may elect a minor in education under the E11 program (see EDT) or in any related discipline within the College of Arts and Sciences. The student must consult with the department administering the discipline for the particular requirements of a minor. Alternatively, the student may elect one of the four multidisciplinary concentrations in prelaw, international affairs, public administration and urban affairs, and political journalism developed by the Department of Political Science. A student completing an area concentration will, upon request, receive a certificate to that effect from the department.

	<i>Semester Hours</i>
1. Prewal	
Required: POL 301 or 411; ENG 272, 316, or 474	6
Choose three: ECO 204; ENG 203, 204, or 205; PHL 201; SOC 326, 327	9
Recommended: POL 495	3
2. International Affairs	
Required: POL 202, 214	6
Choose four: ANT 150; ECO 450, 460, 461; any upper-level non-American HST	12
Recommended: Foreign language through 311 and study abroad	
3. Public Administration and Urban Affairs	
Required: POL 305, 306, 360	9
Choose three: MGT 314; HST 355; SOC 328; ENG 370 or 372; ECO 445 or 485; POL 495	9

4. Political Journalism

Required: POL 303, 311; CMM 330	9
Choose three: CMM 201; CMM 353; CMM 431, 331; POL 360, 450	9

FACULTY

David W. Ahern, *Chairperson*

Professors: Karns, Kerns, Lapitan

Associate Professors: Ahern, Bilocerkowycz, Fogel

Assistant Professors: Bartilow, Ensalaco, Ghery, Inscho, Nelson

Lecturer: Putka

COURSES OF INSTRUCTION

- *POL 101. GOVERNMENT AND SOCIETY: Examination of the major types of contemporary political systems and the relationship between their ideological assumptions and the operational realities. Types examined are democratic capitalist, democratic socialist, communist, and fascist/statist. *3 sem. hrs.*
- POL 201. THE AMERICAN POLITICAL SYSTEM: Study of the American political system, its attitudinal and constitutional base, its structure and processes. *3 sem. hrs.*
- POL 202. INTRODUCTION TO COMPARATIVE POLITICS: Analysis of major concepts and approaches in the study of comparative government and politics. *3 sem. hrs.*
- POL 207. POLITICAL ANALYSIS: Introduction to the basic concepts and processes of research in political science. *3 sem. hrs.*
- POL 214. INTRODUCTION TO INTERNATIONAL POLITICS: Analysis of the dynamic forces of conflict and cooperation in world politics. *3 sem. hrs.*
- POL 300. POLITICAL ISSUES: Introductory examination of contemporary political issues selected by the instructor, such topics as welfare, political morality, political campaigns, institutional reform, and political economy. *3 sem. hrs.*
- POL 301. THE AMERICAN JUDICIAL PROCESS: Study of the judicial process as part of the political system. Focus on the participants (police, lawyers, judges, interest groups, litigants, jurors) and the process (criminal, civil, and appellate proceedings). *3 sem. hrs.*
- POL 303. STATE AND LOCAL GOVERNMENT: Comparative study of the political institutions, processes, and systems of the fifty states and their effect on the content and administration of selected public policies, programs, and services. *3 sem. hrs.*
- POL 305. INTRODUCTION TO PUBLIC ADMINISTRATION: Basic principles of organization and management in executive departments of government at all levels; questions of planning, leadership, and control. *3 sem. hrs.*
- POL 306. PUBLIC POLICY ANALYSIS: Introduction to public policy-making systems and the methodology of policy analysis; theories of policy formulation, the policy-making process, means for measuring policy effectiveness, analysis of proposals for policy change. *3 sem. hrs.*
- POL 310. PARTIES AND INTEREST GROUPS: Descriptive analysis of the nature and interaction of parties and interest groups, and their role in the political system. *3 sem. hrs.*

POL 311. PUBLIC OPINION AND POLITICAL BEHAVIOR: The formation, maintenance, change, and impact of public opinion on the American political system; the role of theory and analysis of data in understanding public and political behavior.

3 sem. hrs.

POL 313. THE AMERICAN PRESIDENCY: Study of the American presidency, the development of presidential powers, and its leadership role in the political system.

3 sem. hrs.

POL 317. DEVELOPMENT OF POLITICAL THEORY: Analysis of selected theorists and political doctrines forming the tradition of Western thought on politics. Theorists including Plato, Aristotle, the Stoics, Augustine, Aquinas, Machiavelli, Hobbes, Locke, Rousseau, Mill, Marx, Spencer, Lenin, Gasset, and Camus presented in their historical and socio-political contexts.

3 sem. hrs.

POL 320-329. COMPARATIVE POLITICS: Analysis of governmental institutions and political processes of selected countries or areas:

POL 320—Western Europe

POL 321—Russia and the New States

POL 323—Latin America

POL 324—Southern Asia

POL 325—The Middle East

POL 326—Africa

POL 327—Southern Europe

POL 328—China

POL 329—Japan

3 sem. hrs. each

POL 331. NATIONALISM AND ETHNOPOLITICS: An analysis of the politics of nationalism and ethnicity and their impact on social justice. Diverse case studies (US, USSR, Russia, Northern Ireland, Israeli-Palestinian) and institutions (European Community, United Nations) will be explored.

3 sem. hrs.

POL 335. UNITED STATES NATIONAL SECURITY POLICY: Analysis of various political, economic, and military issues and problems relating to U.S. national security.

3 sem. hrs.

POL 350. LEGISLATIVE POLITICS: Study of the U.S. Congress, its organization and procedures, and its powers and influence in the political system.

3 sem. hrs.

POL 360. URBAN POLITICS AND POLICY: Study of the nature of urban political systems in the U.S. with emphasis on explanation of differences in their policy responses.

3 sem. hrs.

POL 404. UNITED STATES-LATIN AMERICAN RELATIONS: This course examines the foreign relations of the United States with other countries of the Western hemisphere. Political, economic and security issues are examined from both theoretical and historical perspectives.

3 sem. hrs.

POL 405. FISCAL OPERATIONS IN GOVERNMENT: Course for students who plan careers in public service or not-for-profit agencies. Analytical tasks that relate to such fiscal areas as revenue estimation, budgeting, expenditure monitoring, and evaluation. Microcomputers may be used in instruction.

3 sem. hrs.

POL 406. INTERNATIONAL LAW AND ORGANIZATION: Study of rules governing the community of nations; their nature, sources, and development; the international agencies responsible for their development, interpretation, and administration.

3 sem. hrs.

POL 407. CHINESE FOREIGN POLICY: Analysis of the Chinese foreign policy structures and processes as well as the development of Chinese foreign policy and relations with the Soviet Union, the United States, and the Third World.

3 sem. hrs.

- POL 408. AMERICAN FOREIGN POLICY: Critical study of the American foreign policy process and evaluation of the sources of American foreign policy. 3 sem. hrs.
- POL 409. RUSSIAN FOREIGN POLICY: Analysis of the internal and external factors shaping the foreign policies of Russia and the independent republics. 3 sem. hrs.
- POL 410. COMPARATIVE FOREIGN POLICY: Comparative analysis of the foreign policies of major states with emphasis on the process of policy development and on the national and international determinants of policy behaviors. 3 sem. hrs.
- POL 411. CONSTITUTIONAL LAW: Analysis of the role of the U.S. Supreme Court in its interpretation of the Constitution. Emphasis on the various methods of judicial interpretation as they affect such provisions as the commerce clause, the taxing and spending powers, due process, the dimensions of presidential and congressional authority, and the doctrine of judicial review. 3 sem. hrs.
- POL 413. THE POLITICS OF BUREAUCRACY AND REGULATION: Examination of the nature and meaning of bureaucracy in contemporary American society and the devices for its evaluation and control. 3 sem. hrs.
- POL 421. SEMINAR IN POLITICAL SCIENCE: Seminar on current problems and issues in political science. May be taken more than once when content changes. Prerequisite: Permission of professor. 3 sem. hrs.
- POL 431. INDEPENDENT STUDY AND RESEARCH: Individual reading and research on selected topics under faculty direction. Recommended for seniors only. Prerequisite: Permission of professor. 3 sem. hrs.
- POL 437. PROBLEMS IN INTERNATIONAL POLITICS: Focus on selected problems in international politics such as the causes of war, negotiation, the Middle East, and the North-South conflict. May be repeated as the topic changes. Prerequisite: POL 214 or permission. 3 sem. hrs.
- POL 450. CIVIL LIBERTIES: Analytical examination of civil liberties in the U.S. with emphasis on the Supreme Court as arbiter in the endless conflict between the demand for individual liberty and the needs of constitutional authority. 3 sem. hrs.
- POL 452. POLITICAL VIOLENCE: Consideration of theoretical approaches to understanding violent change in political institutions; the continuum between violence and nonviolence; revolution, revolt, campus dissent, and political assassination. Emphasis on the roles of criminal justice and government agencies in meeting dissent. (Same as CRJ 401.) 3 sem. hrs.
- POL 455. COMMUNISM AND POST-COMMUNISM: Analysis of communist theory and practice in various countries and the post-communist challenges facing states seeking to build democracy, a market economy, and overcome the communist legacy. 3 sem. hrs.
- POL 456. THEORY AND PRACTICE OF FASCISM: The psychological and attitudinal elements of fascism; its manifestations in Italy, Germany, Spain, France, and Austria; its relevance as a political phenomenon today. 3 sem. hrs.
- POL 457. POLITICAL CHANGE IN THE THIRD WORLD: Analysis of the concepts of development and change within the context of Third World nations; emphasis on the impact of modernization on political processes and change. 3 sem. hrs.

POL 471. ENVIRONMENTAL POLICY: Examination of environmental public policymaking and implementation in the U.S. and in the international arena. Analysis of domestic and international governmental responses to specific environmental issues.

POL 475. AMERICAN POLITICAL THOUGHT: Ideas that have shaped the American political system: Puritanism, the American Revolution, Hamiltonianism, Jeffersonianism, racism, nativism, social Darwinism, the New Deal, and contemporary liberalism and conservatism. *3 sem. hrs.*

POL 479. SELECTED TOPICS IN PUBLIC POLICY: Intensive examination of policy process, outcomes, and impact in an area or areas of American public policy selected by the instructor; such topics as transportation, education, welfare, national defense, urban and community development, civil rights, and science and technology. May be repeated once when topic changes. *3 sem. hrs.*

POL 495. INTERNSHIP: Supervised experience in government agencies and programs. Prelaw students are assigned to law firms and judicial chambers. Prerequisite: Permission of supervising professor. *3 sem. hrs.*

*General Education course. See Chapter V.



PRELAW

PRELAW

At the University of Dayton, students thinking about attending law school join the Prelaw Program. That program provides them with the guidance and academic assistance necessary to prepare them for success in the study of law. Because law schools seek students with a broad, liberal arts education and discourage students from having a vocationally-oriented "prelaw" major, prelaw students at the University of Dayton select undergraduate majors based on their interests and aptitudes. They select these majors either as incoming first-year students or, with the aid of their prelaw advisors, later in their college career. However, in order to receive adequate counseling, all students thinking about postgraduate work in law should declare their prelaw intentions to the prelaw office as early as possible. This enables them to take full advantage of all the counseling, advising, and preparatory services provided by the Prelaw Program.

In addition to courses in their majors, prelaw students select courses that help develop analytical skills and academic abilities necessary to success in law school and careers in law. While no prelaw course of study is perfect for all students, particular courses taken in conjunction with a traditional academic major provide the prelaw student with an excellent academic preparation for legal study. Students take courses which emphasize the following:

1. Skill in the analysis and synthesis of ideas. Courses in such disciplines as history, literature, mathematics, philosophy, and the sciences develop critical, analytical thinking.

2. Proficiency in communicating ideas effectively and clearly. Courses in such areas as composition theory and process, in exposition and argumentation, in persuasion, and in the techniques and uses of research aid in the development of this ability.

3. Comprehension of the basic principles of the American political and legal system, including their origins and functions. Courses in British and American history, political science, and criminal justice promote an understanding of these concepts.

4. A critical examination of the ethical issues in the law and the legal profession. Courses in philosophy and religious studies form a basis for such an examination.

5. An understanding of the basic principles of economics and accounting.

Members of the Prelaw Faculty Committee help students develop an appropriate course of study based on their interests, aptitudes and goals. In addition, they provide students with information about law school recruitment, financial aid, the Law School Admission Test (LSAT), and the writing of applications and securing of recommendations. The Prelaw Program also sponsors LSAT preparation workshops, a prelaw internship for which students receive course credit while working in an attorney's office, and mock trial competition. A chapter of Phi Alpha Delta, a national law fraternity, is active on campus.

PRELAW FACULTY COMMITTEE

Roberta Sue Alexander (History), *Director, Prelaw Program*

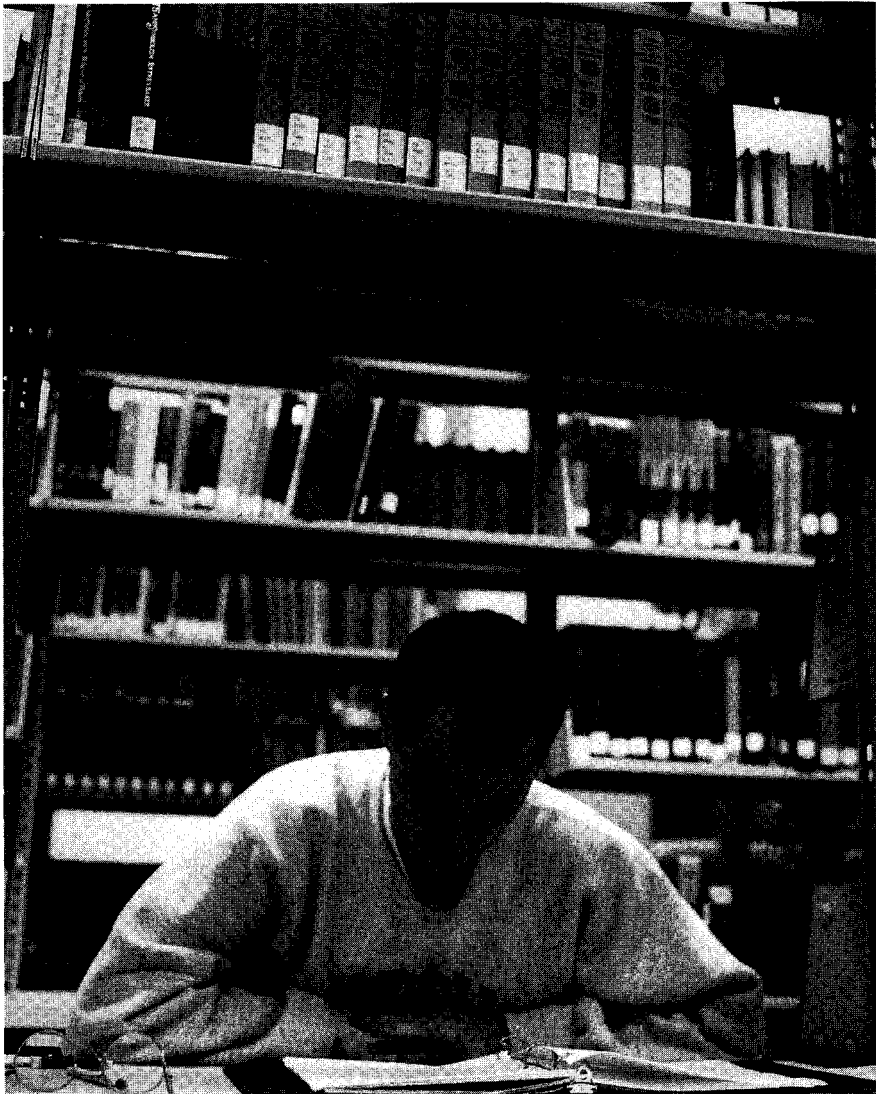
Gustafson (Economics), Ingram (Criminal Justice), Kerns (Political Science),

Kimbrough (English), Payne (Philosophy)

COURSES OF INSTRUCTION

PLW 301. MOCK TRIAL I: Practice and performance of attorney and witness roles for Mock Trial National Competition case. Repeatable up to 4 semester hours. 1 sem. hr.

PLW 302. MOCK TRIAL II: Practice and performance of attorney and witness roles for Mock Trial National Competition. Repeatable up to 4 semester hours. Prerequisite: PLW 301 and invitation by mock trial coaches. 1 sem. hr.



MED, DEN

PREMEDICINE (MED) AND PREDENTISTRY (DEN)

Students who intend to continue their education at the professional-school level (medical, dental, osteopathic) should choose undergraduate majors that hold the greatest interest for them. The minimum academic requirements for admission to professional schools are met by a number of degree programs at the University of Dayton. Students with strong interests in biology or chemistry should enroll in Program S1 (B.S. in Biology), A2 (B.A. in Chemistry), S2 (B.S. in Biochemistry), or S3 (B.S. in Chemistry). From an academic standpoint students in these and other science programs are as fully qualified for admission to professional schools as are those students who follow the formal premedicine-predentistry curriculum. These students may utilize all the premedical counseling and advisory facilities available at the University. However, in order to receive adequate counseling, they must declare their professional school intentions to the premedical office as early as possible.

Program S13, the B.S. for premedical and preidental students, meets the admission criteria (required and recommended courses) of all approved medical and dental schools. In addition to the basic sciences, it includes courses in the humanities and the social sciences. Students contemplating a career in medicine or dentistry should realize that preference is given to candidates who have the most complete education, as well as good scholastic standing. Program S13 offers a wide choice of science and nonscience electives. Premedical-preidental students can change to biology or (B.A.) chemistry majors as late as the junior year without any loss of semester hours.

The Premedical-Preidental Faculty Committee is responsible for program policies, curricular requirements, course advising, general counseling, and the preparation of recommendation letters for applicants to the primary health professional schools. The Committee conducts a second-year evaluation of all S13 students for the purpose of assessing academic progress. A chapter of the National Premedical Honor Society, Alpha Epsilon Delta, is established on campus.

PROGRAM S13: BACHELOR OF SCIENCE WITH A MAJOR IN PREMEDICINE (MED) OR PREDENTISTRY (DEN)¹

	<i>Semester Hours</i>
Required science courses	45-47
BIO 151, 152, 152L, 201L	8
CHM 123, 123L, 124, 124L, 201, 201L, 313, 313L, 314, 314L	20
CPS 111	3
MTH 148-149 or 168-169 ²	6-8
PHY 201, 201L, 202, 202L ³	8
Elective science courses	17
Five lecture courses that must be selected from among mathematics, the natural sciences and/or engineering. The elective courses must be directly related to the primary field of interest. Laboratory sections must accompany two of the electives.	

Communication skills	6-12
CMM 101 ⁴	3
ENG 101-102 or 114 or 198; ENG elective ⁵	3-9
Philosophy and religious studies ⁶	12
History	6
Humanities	12
A modern foreign language is strongly recommended.	
Social and behavioral sciences	12
General electives ⁷	12
First-year experience: ASI 150	0-1
Total semester hours	122-130
(See advisors for term-by-term course listings.)	

¹Consult General Requirements for all Bachelor of Science Programs and Chapter V for General Education Requirements.

²Begin in MTH 116 if background is not suitable for MTH 148. MTH 116 counts as a general elective. Well qualified students are advised to take MTH 168-169.

³Well qualified students are strongly advised to take PHY 206-207-208 lecture sequence with PHY 201L and 202L.

⁴If CMM 101 is waived, a 3 sem. hr. Humanities course must be taken in its place.

⁵Select ENG elective from among ENG 203, 204, 205, 272, 316, or any 300-level general Education ENG elective.

⁶One PHL or REL elective must be an ethics course. Select from among PHL 312, 315; REL 265, 357.

⁷Only general elective courses can be taken under grading option 2.

PREMEDICAL-PREDENTAL FACULTY COMMITTEE

Charles J. Chantell (Biology), *Committee Chairperson*

Bajpai (Biology), Berney (Physics), Fox (Chemistry), Graham (Physics),
Kearns (Biology), Singer (Chemistry)



PSY

PSYCHOLOGY (PSY)

Psychology is the scientific study of behavior, and as such is a diverse field that touches all aspects of human endeavor.

The objectives of the Department of Psychology are to provide students with learning experiences in and out of the classroom which will increase their critical thinking skills, facilitate their acquisition of the body of knowledge inherent in the study of human behavior, equip them with its research methodology, and prepare them for employment or graduate school.

The Department of Psychology offers both the Bachelor of Arts and the Bachelor of Science. Each student, in consultation with an advisor, selects a program leading to either a Bachelor of Arts or a Bachelor of Science with appropriate elective credits according to individual interests and goals. The availability of both degrees allows the student to plan a double major or a major in psychology with a strong concentration of study in a related or complementary discipline.

Each psychology major must complete PSY 101, 216, and 217 early in his or her academic career. The remaining requirements are stated in the two outlines below. Exceptions to these requirements must be approved by the chairperson.

For a minor in psychology a student must complete PSY 101 and 12 semester hours of upper-level (300-400) courses and their prerequisites.

PROGRAM A14: BACHELOR OF ARTS WITH A MAJOR IN PSYCHOLOGY (PSY)¹

	<i>Semester Hours</i>
Psychology requirements and electives	34
PSY 101, 216 ² , 217	10
Select two courses from PSY 321, 322, 323, 422	6
Select two courses from PSY 341, 351, 361, 363	6
PSY electives	12-23
Natural science	7
Mathematics: MTH 114, 116, 128, 129, 148, 149, 168, or 169	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²May substitute MTH 207 or 215 for PSY 216.

**PROGRAM S14: BACHELOR OF SCIENCE WITH A MAJOR IN
PSYCHOLOGY (PSS)¹**

	<i>Semester Hours</i>
Psychology requirements and electives	34
PSY 101, 216 ² , 217	10
Select two courses from PSY 321, 322, 323, 422	6
Select two courses from PSY 341, 351, 361, 363	6
PSY electives	12-23
Natural science ³	24
MTH 148, 149 ⁴	6
Humanities	9
Social and behavioral sciences	6
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See Distribution Table for All Bachelor of Science Programs and Chapter V for General Education Requirements.

²May substitute MTH 207 or 215 for PSY 216.

³Two 3-sem.-hr. natural science courses (BIO, CHM, GEO, PHY) with accompanying laboratories are required. The remaining 16 sem. hrs. may be fulfilled by courses in BIO, CHM, GEO, PHY, and CPS courses as well as by MTH courses beyond the departmental MTH requirement.

⁴May substitute MTH 116, 128, 129, 168, or 169 for MTH 148 or 149.

FACULTY

F. Thomas Eggemeier, *Chairperson*

Professors: Butter, DaPolito, Eggemeier, Fine, Kimble, Polzella

Associate Professors: Allik, Biers, Bower, Katsuyama, Korte, Kuntz,
Moroney, Whitaker

Assistant Professors: Roberson, Graetz, Elvers

Adjunct Faculty: Kennedy, Keuhnl, Martin, O'Connor, Reising, Ward

COURSES OF INSTRUCTION

* PSY 101. INTRODUCTORY PSYCHOLOGY: Study of human behavior including development, motivation, emotion, personality, learning, perception; general application of psychological principles to personal, social, and industrial problems. Students must participate in departmental research. 3 sem. hrs.

PSY 216. ELEMENTARY STATISTICS: Basic probability and applied statistics: measures of central tendency and dispersion, sampling, estimation, hypothesis testing, tests between means, linear regression, correlation, and ANOVA. Prerequisites: PSY 101 and MTH 102 or equivalents. 3 sem. hrs.

PSY 217. EXPERIMENTAL PSYCHOLOGY: Basic concepts of scientific methods as applied to psychological problems. Experiments to familiarize students with application of scientific methodology to study of human psychological processes. Required of all psychology majors. Prerequisites: PSY 101, 216. *4 sem. hrs.*

PSY 251. HUMAN GROWTH AND DEVELOPMENT: Focuses on stages of human development from infancy through the aging adult. Emphasis is on various theoretical approaches and the development associated with each stage. Psychology majors may not take for credit toward major. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 321. COGNITIVE PROCESSES: Information-processing approach to attention, perception, memory, imagery, and thought. Theoretical structures including neuron modeling of higher cognitive and experimental process. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 321L. COGNITIVE PROCESSES LABORATORY: In depth discussion of seminal research in cognition. Collection, analysis, and interpretation of data. Prerequisites: PSY 101, 216, 217, 321 or permission of instructor. *1 sem. hr.*

PSY 322. LEARNING: Foundations of the learning process. Classical and instrumental paradigms and variants of each considered in preparation for investigations of complex learning. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 323. PSYCHOLOGY OF PERCEPTION: Introduction to major theoretical and experimental work in perception, including visual, auditory, proprioceptive, and other sensory systems. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 333. PSYCHOLOGICAL TESTS AND MEASUREMENTS: Survey of major tests of intelligence, aptitude, interest, and personality presently used in clinics, schools, personnel offices, and research settings. Emphasis on evaluation and comparison, rationale of construction, ethical considerations. Prerequisites: PSY 101, 216 or equivalent. *3 sem. hrs.*

PSY 334. INDUSTRIAL PSYCHOLOGY: Introduction to modern efforts to improve human performance in industrial organization and society; selection and placement of employees, morale, training, and incentives. Prerequisite: PSY 101. *3 sem. hrs.*

* PSY 341. SOCIAL PSYCHOLOGY: Survey of major theoretical and experimental work in the field; attitudes, conformity, emotions, group dynamics. *3 sem. hrs.*

PSY 344. INTERPERSONAL RELATIONS: Social psychological research in non-verbal behavior, social exchange, self-disclosure, and interpersonal attraction and how these are related to developing relationships. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 351. CHILD PSYCHOLOGY: Study of psychological processes from the developmental point of view; changes in perception, cognition, emotion, and social behavior from infancy to adolescence. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 352. FIELD EXPERIENCE IN CHILD PSYCHOLOGY: Practical experience with a community agency providing instructional, recreational, or therapeutic services. Volunteer 4-5 hours weekly. Prerequisites: PSY 101 and previous or concurrent registration in PSY 351. Grade option 2 only. *1 sem. hr.*

PSY 355. PSYCHOLOGY OF THE EXCEPTIONAL CHILD: Survey of developmental theory and research related to childhood exceptionality, including major emotional disorders, giftedness, retardation, and the psychological implications of chronic physical illness and disorders of speech, vision, and hearing. Focus on etiology, identification, and intervention. Prerequisite: PSY 101; 351 highly recommended.

3 sem. hrs.

PSY 361. PERSONALITY: Introduction to the study of personality through analysis of such major theories as those of Freud, Skinner, Maslow, and Rogers. The development of personality and the stability of personality characteristics over time. Review of clinical and experimental findings. Prerequisite: PSY 101.

3 sem. hrs.

PSY 363. ABNORMAL PSYCHOLOGY: Patterns of disordered behavior; social, psychological, and physiological factors; theoretical explanations of abnormal behavior. Prerequisite: PSY 101.

3 sem. hrs.

PSY 364. PSYCHOTHERAPY: Survey of current types of psychotherapy. Emphasis on similarities and differences in underlying theories of behavioral change and associated techniques. Prerequisite: PSY 101.

3 sem. hrs.

PSY 375. PSYCHOLOGY OF THE ARTS: Explores the psychological experiences associated with the creation and appreciation of music, art, and literature. Course content is presented in terms of the theories, methods, and research findings in the fields of perception, cognition, and development.

3 sem. hrs.

PSY 422. PHYSIOLOGICAL PSYCHOLOGY: Neurophysiological analysis of attention, sensation, perception, emotion, motivation, and learning. Electrophysiological methods are discussed. Prerequisite: PSY 101.

3 sem. hrs.

PSY 431. INTERVIEWING AND COUNSELING: Integrated approach to the theory, techniques, skills, and values of interviewing and counseling. Practice through written assignments, self study, classroom exercises, and role-playing. Prerequisite: PSY 101 or permission of instructor.

3 sem. hrs.

PSY 435. HUMAN FACTORS: Essential psychological concepts and methods to improve use of human efforts and equipment. Principles governing design of equipment for human use. Prerequisite: PSY 101.

3 sem. hrs.

PSY 443. PSYCHOLOGY OF WOMEN: Survey of topics related to the psychology of women, such as gender identity and roles, theories of female development, relationships, achievement, language, health issues, spirituality, sexuality, and violence. Prerequisite: PSY 101.

3 sem. hrs.

PSY 444. ENVIRONMENTAL PSYCHOLOGY: Study of the effects of the physical and social environment on human behaviors, attitudes, and affective responses. Prerequisites: PSY 101 and 341 or permission of instructor.

3 sem. hrs.

PSY 445. TECHNOLOGY, ENVIRONMENT, AND BEHAVIOR: Examines the cultural bases for the individual and societal choices which humans make about their use of technology. Technology is broadly defined to include human-machine systems.

3 sem. hrs.

PSY 450. PSYCHOLOGY FOR MINISTRY: Human development and adjustment, interpersonal communication, and the psychology of religion. Prerequisite: Acceptance into the Lay Ministry Program or permission of instructor.

3 sem. hrs.

PSY 452. COGNITIVE DEVELOPMENT IN CHILDREN: Major approaches to the study of cognitive development; attentional and mediational development in children's learning, memory, and problem solving; language development and Piaget's theory. Prerequisite: PSY 351 or permission of instructor. (Also PSY 574.) *3 sem. hrs.*

PSY 457. TELEVISION AND ITS EFFECTS ON CHILDREN: Readings in psychological research on the broad effects of television on children. Emphasis on analyzing and evaluating the research. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 461. CURRENT IMPLICATIONS OF DRUG DEPENDENCY: Survey of effects, symptoms, treatment, casualties, and myths associated with drug use and abuse. Emphasis on existing treatment methods and psychological implications of drug dependency. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 462. HUMAN SEXUALITY: Psychological factors in human sexuality including developmental, biological, and social perspectives. Such topics as sexual orientation, gender identity and roles, sexual relationships, sexual dysfunction, power and violence, and commercialization. *3 sem. hrs.*

* PSY 471. HISTORY OF PSYCHOLOGY: The evolution of psychology from its origins in philosophy, science, clinical, and applied settings. Emphasis on integrating these systems and schools of thought with modern psychology. Prerequisite: PSY 101 or permission of instructor. (Also PSY 526.) *3 sem. hrs.*

PSY 490. INTERNSHIP IN PSYCHOLOGY: Supervised experience arranged on an individual basis in appropriate settings. For psychology majors who have completed prescribed course work only. Consult internship director for details. May be repeated up to 6 sem. hrs. *1-6 sem. hrs.*

PSY 493. INDEPENDENT STUDY: Problems of special interest investigated under faculty direction. Area and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. *1-6 sem. hrs.*

PSY 494. READINGS IN PSYCHOLOGY: Directed reading in a specific area of interest, under faculty supervision. Topic and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. *1-6 sem. hrs.*

Note: A total of no more than 6 sem. hrs. of PSY 490, 493 and/or 494 may be counted toward the required 34 sem. hrs. for a psychology major.

PSY 495. SPECIAL TOPICS IN PSYCHOLOGY: Topics of special interest to faculty and students; intensive critical evaluation of appropriate literature. Prerequisite: Permission of the instructor. *1-3 sem. hrs.*

*General Education course. See Chapter V.

RELIGIOUS STUDIES (REL)

The Department of Religious Studies sees itself as a community of scholars serving the University community and the local community by teaching, research, criticism, and action. The main concern of the department is an understanding and elucidation of the Judaeo-Christian religious experience as it is exemplified in the Roman Catholic tradition. This implies not only a deep investigation of the Roman Catholic position but also a dialogue with other Christian denominations and with other world religions. Through its participation in the Sanders Judaic Studies Program, the department offers special courses in this area. It also engages in interdisciplinary studies.

Students minoring in religious studies must complete 18 semester hours in the Department of Religious Studies. At least 12 semester hours are to be at the 300-400 level. At least 3 semester hours are to be at the 400 level.

PROGRAM A15: BACHELOR OF ARTS WITH A MAJOR IN RELIGIOUS STUDIES (REL)¹

	<i>Semester Hours</i>
Religious studies	36
At least 24 sem. hrs. at 300-400 level; at least 9 sem. hrs. at 400 level. At least one course in each of these four areas:	
Biblical studies	
Historical theology	
Systematic theology	
Christian ethics—religion and culture	
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Foreign language ²	6-8
Philosophy	9
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²Where appropriate, this credit may apply to the humanities breadth requirement.

FACULTY

Rev. Joseph F. Kozar, S.M., *Interim Chairperson*

Professors: Anderson, Barnes, Branick, Burns, Friedland, Frost, Hater, Heft, Kohmescher, L'Heureux, Roberts

Associate Professors: Doyle, J. Martin, Zukowski

Assistant Professors: Buby, Kozar, McGrath, Thimmes, Weare, Yocum Mize

COURSES OF INSTRUCTION

- REL 103. INTRODUCTION TO RELIGION: Examination of the nature of religion, comparative aspect of religion, and the function of religion as a source of interpretation of life. The "Catholic Option" takes the majority of its perspectives and examples about religious beliefs and practices from the Roman Catholic tradition. *3 sem. hrs.*
- * REL 140. CATHOLICISM TODAY: General introduction to current theological thinking on Catholic belief and practice. *3 sem. hrs.*
- * REL 146. DYNAMICS OF RELIGION: Introductory description and analysis of the origins and functions of various forms of religion, including their effects on individuals and cultures. *3 sem. hrs.*
- * REL 201. SELECTED RELIGIONS OF THE EAST: Introduction to several major religious traditions which originated in the East, including Hinduism, Buddhism, Jainism, Taoism, and Confucianism. *3 sem. hrs.*
- * REL 202. RELIGIONS OF THE MIDDLE EAST: Introduction to the monotheistic religious traditions which originated in the Middle East, including Zoroastrianism, Judaism, Christianity, and Islam. *3 sem. hrs.*
- * REL 211. THE OLD TESTAMENT IN MODERN STUDY: Introduction to the historical and prophetic literature of the Old Testament, surveyed in the light of contemporary historical, literary, form-critical, and sociological methodologies. *3 sem. hrs.*
- * REL 212. THE NEW TESTAMENT IN MODERN STUDY: Introduction to selected books of the New Testament, surveyed in the light of contemporary historical, literary, form-critical, redaction-critical, and sociological methodologies. *3 sem. hrs.*
- * REL 213. RELIGION AND VALUES IN ANCIENT ISRAEL: Introduction to the critical and sociological study of the Old Testament. Examination of texts and historical situations that reflect values-related issues, the relationship of religious belief and values, and the emergence of pluriform value systems within ancient Judaism. Prerequisite: 3 semesters of core curriculum courses. *3 sem. hrs.*
- * REL 265. CHRISTIAN ETHICS: Introduction to the reflection upon Christian morality; discussion of various approaches in Christian ethics, the elements of ethical judgments, and some specific ethical issues. *3 sem. hrs.*
- * REL 305. ANCIENT NEAR EASTERN RELIGIONS: Examination of the mythology and religion of the Babylonians, Egyptians, and Canaanites with special attention to their relation to the Old Testament. *3 sem. hrs.*
- * REL 306. BUDDHISM AND CHRISTIANITY: Exploration of the 2,500-year-old Buddhist tradition—the life of its founder, development of its teachings, rituals, and meditation techniques. Survey of the spread of Buddhism to the West in the 20th century. Parallels and contrasts with the Christian tradition. *3 sem. hrs.*
- * REL 307. JUDAISM: Basic introduction to Judaism: its history, its faith, its worship. *3 sem. hrs.*
- * REL 310. THE PENTATEUCH: Examination of the first five books of the Hebrew Bible, known as the Torah or Pentateuch, emphasizing the traditions that relate primeval beginnings, ancestral history, the exodus, wilderness wanderings, and the legal codes. *3 sem. hrs.*

- * REL 311. THE PROPHETS: The prophetic texts of the Old Testament studied as reformulations of ancient religious traditions to meet new historical situations. The relevance of the prophets to contemporary life and thought. *3 sem. hrs.*
- * REL 312. THE PSALMS AND THE WISDOM LITERATURE: Critical examination of the biblical books of Psalms, Proverbs, Job, Ecclesiastes, and Ben Sira and of related literature within the historical context in which they arose. The contemporary relevance of this literature. *3 sem. hrs.*
- * REL 316. THE SYNOPTIC GOSPELS: With the Gospel of Mark as a point of departure, comparison of the Markan, Matthean, and Lukan narratives for an understanding of the various conceptions of Jesus found in these gospels. *3 sem. hrs.*
- * REL 317. STUDIES IN JOHN: Historical-critical study of the Gospel of John, its text, literary techniques, structure, and theology. The narrative world of John's Gospel related to the Johannine community. *3 sem. hrs.*
- * REL 318. STUDIES IN PAUL: Detailed examination of the letters of Paul, stressing the historical circumstances affecting their composition as well as the main religious ideas of Paul that govern their content. *3 sem. hrs.*
- REL 319. THE BOOK OF REVELATION: Detailed critical analysis of various biblical apocalyptic texts as found in Judaism and early Christianity. Focus on the Book of Revelation against the background of other biblical and intertestamental apocalyptic texts. *3 sem. hrs.*
- * REL 323. HISTORY OF CHRISTIANITY I (100-1100): Study of important events, movements, ideas, and people in the development of Christianity to the year 1100 including the formation of the Canon, early Church councils, Augustine, Gregory the Great, monasticism, the rise of Islam, Eucharistic and other controversies, and the Gregorian Reform. *3 sem. hrs.*
- * REL 324. HISTORY OF CHRISTIANITY II (1100-PRESENT): Study of important events, movements, ideas, and people in the development of Christianity from 1100 to the present, including the separation of the Churches of the East and West, rise of the mendicant orders, Scholasticism, key themes and figures of the Reformation, Vatican I, Modernist crisis, ecumenism, and Vatican II. *3 sem. hrs.*
- REL 326. PROTESTANT CHRISTIANITY: Survey of the development of Protestant thought from the Reformation. *3 sem. hrs.*
- * REL 327. U.S. PROTESTANT AND JEWISH EXPERIENCE: The growth and development of Protestant Christianity in the U.S. in its various expressions; its interaction with American culture; the Jewish experience; the Orthodox in the U.S.; modern religious movements. *3 sem. hrs.*
- * REL 328. U.S. CATHOLIC EXPERIENCE: The growth and development of Catholic Christianity in the U.S.; its interaction with America, its culture, and its people. *3 sem. hrs.*
- * REL 340. THE CHURCH: A biblical and theological study of the meaning of the Church which explores the relationship between Christ and the Church, the various models for understanding the Church, and the mission of the Church. *3 sem. hrs.*
- * REL 341. SIGNIFICANCE OF JESUS: Emphasis on the identity of Jesus and on the significance that his ministry, death, and resurrection have for the salvation of humankind. *3 sem. hrs.*

- *REL 343. THE SACRAMENTS: A study of the meaning of sacramentality. The sacraments in the context of Christ as the sacrament of the human encounter with God and in the context of the Church as the sacrament of Christ. *3 sem. hrs.*
- * REL 344. CHRISTIAN MARRIAGE: Analysis of the sanctifying dignity of Christian marriage as a sacrament and commitment to share in the divine creative plan. *3 sem. hrs.*
- * REL 349. SEARCH FOR IMMORTALITY: Examination of how other disciplines regard the question of immortality and a theological evaluation of their insights. *3 sem. hrs.*
- * REL 356. THE CHRISTIAN TRADITION OF PRAYER: Study of several types and forms of Christian prayer from various periods in Church history. The meaning of the act of faith expressed in prayer and its relationship to belief. *3 sem. hrs.*
- * REL 361. CORE RELIGION SEMINAR: Culminating course for students in CORE. Discussion of readings on values in a pluralistic society; such issues as wealth and poverty, education, war and peace. Open only to students in CORE. *3 sem. hrs.*
- * REL 362. CHRISTIAN FAMILY VALUES AND TELEVISION: Comparative study of the criteria and rationale for family life in various Christian pronouncements with present values and practices in society as reflected in and promoted by current television programming. *3 sem. hrs.*
- REL 364. CURRENT MORAL ISSUES: An examination of one or more issues (individual and/or social) in contemporary reflection on Christian moral life. May be repeated when topic changes. *3 sem. hrs.*
- * REL 367. CHRISTIAN ETHICS AND HEALTH CARE ISSUES: Study of, and reflection upon, the principles of Christian ethics as these relate to the health care professions. *3 sem. hrs.*
- * REL 368. CHRISTIAN ETHICS AND THE BUSINESS WORLD: Study of, and reflection upon, the principles of Christian ethics as these relate to the business world. *3 sem. hrs.*
- * REL 369. CHRISTIAN ETHICS AND ENGINEERING: Study in applied Christian ethics addressing the moral issues facing engineers. How to make a moral decision, engineering as a profession, codes of ethics, safety, environmental issues, confidentiality, employee rights, whistleblowing, consulting, conflicts, and career choices. *3 sem. hrs.*
- * REL 371. THE NEW RELIGIONS AND PERSONAL TRANSFORMATION: Experiential and holistic approach to contemporary movements that use ideas and techniques of Eastern religions to promote personal growth and transformation. *3 sem. hrs.*
- * REL 372. RELIGION AND FILM: Study of issues common to narrative films and religious thought; the power of various film techniques, dominant models in religious and film reflection, the similar roles imagination plays in film and religious thought. *3 sem. hrs.*
- * REL 373. RELIGION AND LITERATURE: Joint study of literature and religion, seeking the sacred in the secular, discussing the doctrines of humans and of God in major modern writings, especially those of current collegiate interest. *3 sem. hrs.*

- *REL 374. RELIGION AND ART: Investigation into the relationship between religion and art, treating Renaissance and post-Renaissance painting and sculpture as vehicles and manifestations of Christian apocalyptic and humanist worldviews at given times. Basic literary sources of Christian art and effects of secularization on Christian art.
3 sem. hrs.
- *REL 376. THEOLOGY AND THE SOCIAL SCIENCES: Exploration of developments in Christian theology that have paralleled the rise of the human sciences, in particular of concepts of God, humanity, Church, sacraments, sin, and salvation in the light of history, anthropology, psychology, and sociology.
3 sem. hrs.
- *REL 377. THE INNER JOURNEY IN MYTH, BIBLE, AND LITERATURE: Study of stories of heroic figures in the Bible and in other literature as patterns of personal and spiritual development. Throughout, efforts to relate the material to the needs of contemporary persons.
3 sem. hrs.
- *REL 383. PHILOSOPHY OF RELIGIOUS EDUCATION: An attempt to construct a philosophy of religious education, various contemporary theoretical models, dimensions of teaching religion in a pluralistic society, the polarization generated. 3 sem. hrs.
- *REL 385. LAY MINISTRY: A critical examination of lay ministry and its theological basis, in light of Vatican II and recent trends in the world and Church. Special topics: family ministry, ministry in the marketplace, leadership, evangelization, catechesis, women, social justice.
3 sem. hrs.
- REL 392. SPECIAL QUESTIONS: Examination of issues pertinent to religion in either one or a series of courses. May be repeated when topic changes.
1-3 sem. hrs.
- REL 399. READINGS IN RELIGIOUS STUDIES: Directed readings in a specific area of interest under the supervision of a staff member. May be taken more than once. By permission only.
1-3 sem. hrs.
- *REL 406. JEWISH THOUGHT: Historical development of Jewish thought from the close of the Old Testament canon down to modern times, with emphasis on selected movements and/or thinkers.
3 sem. hrs.
- *REL 441. THEOLOGY OF MARY: Study of the place of the Mother of God in the great truths of faith in the light of chapter eight of the Constitution on the Church.
3 sem. hrs.
- *REL 442. GOD AND ATHEISM: Study of some recent contributions made by theology, philosophy, psychology, and the humanities to the current discussion of God's existence, nature, and relationship to humanity.
3 sem. hrs.
- REL 446. CHRISTIAN LITURGY: Study of the basic principles of liturgy, the development of some of the basic forms of liturgy, and applications of the principles within current rites.
3 sem. hrs.
- *REL 447. SELECTED CATHOLIC DOCTRINES: Detailed study of several important current theological questions primarily from a Catholic systematic and historical perspective.
3 sem. hrs.
- *REL 463. PEACE AND JUSTICE: Detailed investigation of various aspects of the relationship between peace and justice, including the dynamics of institutionalized injustice and analysis of it from the point of view of the Church's social teaching. Case studies.
3 sem. hrs.

REL 464. LIBERATION THEOLOGY: A historical-critical analysis and study of the theology of liberation and its specific expression among theologians of the Third World, particularly Latin America. *3 sem. hrs.*

* REL 466. THEOLOGY OF SEXUALITY: A study of sexuality as seen in the Judaeo-Christian tradition with emphasis on an understanding of recent theological approaches to sexuality and a theological critique of the findings presented by related disciplines. *3 sem. hrs.*

* REL 471. WOMEN AND RELIGION: Examination of the impact of the women's movement on Judaism, Christianity, and other major world religions. Survey of traditional religious attitudes toward women. Relevance of feminist approaches to scripture, ethics, spirituality, and ministry in understanding contemporary global issues. *3 sem. hrs.*

* REL 472. ECOLOGY AND RELIGION: Examination of the relationship between religion and ecology; bridges the contributions of traditional theological inquiry and modern scientific insights and offers an enlarged vision of ecological concerns. *3 sem. hrs.*

* REL 477. RELIGION AND SCIENCE: Survey of the ways science has affected religion on specific doctrines, methods of knowing what is true, and general worldviews; study of religious response to these. *3 sem. hrs.*

REL 484. PRACTICUM: Supervised in-service experience in an area of religious education chosen by the student. By permission only. *3 sem. hrs.*

REL 487. RELIGIOUS EDUCATION—THEORY AND PRACTICE: Study of theory and practice of religious education for those who will be teaching religion in the school and parish. Various models and methods. Emphasis on process and religious education as developmental. *3 sem. hrs.*

* REL 488. SPIRITUALITY AND RELIGIOUS EDUCATION: Exploration of impact of liturgy and spirituality on contemporary models of religious education; study of inter-relationship between faith experience and religious content; basic principles for developing practical programs. *3 sem. hrs.*

REL 492. SPECIAL TOPICS: Concentrated study of issues and subjects pertinent to religion. May be repeated when topic changes. *1-3 sem. hrs.*

*General Education course. See Chapter V.

SOCIAL WORK (SWK)

Social work is the profession sanctioned by society to provide social services. It is the professional activity of helping individuals, groups, or communities to enhance or restore their capacity for social functioning. The profession also engages in activities aimed at facilitating societal conditions that enhance and/or restore social functioning.

A minor in Social Work consists of a minimum of 15 semester hours, at least 12 of which are at the 300 or 400 level. No more than 6 semester hours of field experience credit can be accepted toward the minor. See also SOC.

COURSES OF INSTRUCTION

- * SWK 101. SOCIAL WELFARE AND SOCIETY: Study of the emergence and current functioning of the social welfare system in contemporary U.S. society. Selected social issues and the social welfare programs designed to address these issues will be highlighted. *3 sem. hrs.*
- SWK 202. VOLUNTEERS IN COMMUNITY SERVICE: Basic knowledge and skills for providing volunteer services to the social service system. Focus on, and observation of, volunteer services in planning social service programs, fundraising, allocation of funds, and direct service. *3 sem. hrs.*
- SWK 303. COMMUNITY PRACTICE AND RESEARCH: Study of the design and implementation of community research, including needs assessment and program evaluation in the social service system. Prerequisite: Permission of instructor. (Same as SOC 309) *3 sem. hrs.*
- SWK 305. SOCIAL SERVICES IN THE HEALTH FIELD: The role of social services in health care facilities and governmental health programs. U.S. health care policies and programs; methods of social work intervention in medical settings. *3 sem. hrs.*
- SWK 307. MENTAL HEALTH SERVICES: Study of historical perspectives, deinstitutionalization, the community mental health movement, inpatient care, and innovative approaches. Policy and practice implications are examined. *3 sem. hrs.*
- SWK 310. LEGAL ASPECTS OF SOCIAL WORK: Orientation to the legal system as it affects the provision of human services and the profession; social legislation and court decisions as they affect child welfare, public assistance, mental health, housing, and probation and parole services. *3 sem. hrs.*
- SWK 311. SOCIAL WELFARE POLICY AND SERVICES: Study of how social welfare policies are developed and translated into social services. A framework for analysis applied to specific social policies. The role of the social work practitioner in analyzing and planning for social welfare. Prerequisite: SWK 101. *3 sem. hrs.*

SWK 324. CHILD WELFARE SERVICES: Scope, problems, and trends in social welfare services to children. The role of the social worker in protective service, foster care, adoption, group and institutional settings. Children's rights, permanent planning for children, and child advocacy. *3 sem. hrs.*

SWK 325. CHILD ABUSE: Comprehensive study of child abuse: its history, scope, causal factors, indicators for detection, treatment resources and modalities, and community responsibility. *3 sem. hrs.*

SWK 327. PARENTING: SOCIAL WELFARE ROLE: Comprehensive study of historical and contemporary perspectives on parenting, future of parenting (assessing trends and choices in family structure and function), cross-cultural comparisons, policy and legal aspects of parenting, societal influences on parenting. *3 sem. hrs.*

SWK 330. PERSPECTIVES ON AGING: An introduction to the field of gerontology. Focus on the major physical, psychological, and social dynamics of aging. Selected issues will be highlighted. (Same as SOC 330.) *3 sem. hrs.*

SWK 331. DEATH, DYING, AND SUICIDE: Study of the phenomena of death and dying. The role and responsibility of the professional in working with the dying and their survivors. Study of suicide in this society. *3 sem. hrs.*

SWK 342. ADDICTIONS AND SELF HELP: Study of theories of substance and experience addictions, traditional treatment models, and the self-help movement as a treatment approach for addicted people. Focus on understanding the principles and processes of 12 step groups. *3 sem. hrs.*

SWK 392. SPECIAL TOPICS: Exploration of special topics related to the field of human services. Assessment of appropriate literature and research. May be repeated as topics change. *1-3 sem. hrs.*

SWK 401. COMMUNITY FIELD EXPERIENCE: MICRO: Supervised field experience for students working with individuals and/or families in an agency setting. Concurrent seminar includes intensive basic communication and interviewing skill development. Students spend 150 hours in the agency. Prerequisite: Permission of instructor. *5 sem. hrs.*

SWK 402. COMMUNITY FIELD EXPERIENCE: MACRO: Supervised field experience for students interested in working with groups, organizations, and/or communities. Concurrent seminar includes overview of knowledge and skills for macro social work practice. Students complete 150 clock hours in a field placement. Prerequisite: Permission of instructor. *5 sem. hrs.*

SWK 465. INDEPENDENT STUDY: Individual research, study, and readings on specific topics and/or projects of importance to social work. Under individual faculty direction. Prerequisite: Permission of instructor. *3 sem. hrs.*

*General Education course. See Chapter V.

SOCIOLOGY (SOC)

Sociology is the scientific study of society. The unique insight of sociology is that people are who they are largely because of their social experiences and interactions with others. "The sociological imagination" is the ability to understand the relationship between the individual experience and the broader social context. In addition to studying various aspects of social behavior, sociology studies the nature and causes of social problems such as crime, marital instability, poverty, and racism. The challenge facing sociologists is to apply their knowledge in ever more constructive ways for the improvement of society.

Students intending to major or minor in sociology should consult with the department chairperson to plan their programs of courses. Majors may concentrate their studies in the fields of human relations or community relations. The requirements for majoring in sociology are stated in the outline below. A minor in sociology requires 15 semester hours of courses in the discipline, with at least 12 of those at the 300-400 level.

PROGRAM A16: BACHELOR OF ARTS WITH A MAJOR IN SOCIOLOGY (SOC)¹

	<i>Semester Hours</i>
Sociology requirements and electives	37
SOC 101 or 204	3
SOC 208, 303, 308, 308L, 409; SOC 351 or ANT 335	16
SOC electives ² :	18
Philosophy and religious studies	12
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
First-year experience: ASI 150	0-1
General education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

²No more than 6 hours of Field Experience or internship may count toward the Soc. major

FACULTY

Fred P. Pestello, *Chairperson, Department of Sociology, Anthropology, and Social Work*
Professor: M. Huth

Associate Professors: Bregenzer, Davis-Berman, Donnelly, L. Majka, T. Majka,

Miller, F. Pestello, H. Pestello, Saxton

Assistant Professors: Dandaneau, Taylor

Adjunct Associate Professor: Voydanoff

COURSES OF INSTRUCTION

SOC 101. PRINCIPLES OF SOCIOLOGY: Study of social groups, social processes, and society; the individual's relationship to society, social structure, social inequality, ethnic minorities, cities and human populations, and social institutions such as the family, education, religion, and government. *3 sem. hrs.*

*SOC 204. MODERN SOCIAL PROBLEMS: Course to familiarize nonsociology majors with contemporary problems in society; historical development, current status, and analysis of problems, using modern social theories. Content may vary from section to section. *3 sem. hrs.*

SOC 204L. URBAN PROBLEMS LABORATORY: Field study of selected urban problems. Focus on issues and problems of inequality, i.e., poverty, unemployment, discrimination, and homelessness as experienced by members of the urban community. (Corequisite SOC 204) *1 sem. hrs.*

SOC 208. SOCIAL RESEARCH METHODS: Study of the logic of research design, data-gathering strategies, types of measurement, and sampling techniques. Both inductive and deductive approaches. Participation in research projects. *3 sem. hrs.*

SOC 303. MODERN SOCIAL THEORY: Consideration of the works of modern theorists and major trends in the history of social thought. *3 sem. hrs.*

SOC 308. DATA ANALYSIS: The analysis and interpretation of both quantitative and qualitative social science data. Prerequisite: SOC 208. Corequisite: SOC 308L. *3 sem. hrs.*

SOC 308L. DATA ANALYSIS LABORATORY: Training in appropriate computer programs and computer analysis of social science data. Prerequisite: SOC 208. Corequisite: SOC 308. *1 sem. hr.*

SOC 309. COMMUNITY PRACTICE AND RESEARCH: Study of the design and implementation of community research, including needs assessment and program evaluation in the social service system. Prerequisite: Permission of instructor. (Same as SWK 303) *3 sem. hrs.*

SOC 321. THE SOCIOLOGY OF WORK AND OCCUPATIONS: Survey of the major features of work and occupations in industrial society. The meaning of work, occupational choice and recruitment, occupational socialization, career patterns, and occupational rewards. Unemployment, underemployment, sex-typing, automation and alienation. *3 sem. hrs.*

SOC 322. SEX ROLES AND SOCIETY: Research findings and major analytical approaches to study social and cultural influences on the development of personal sexual identity and relationships between men and women. Major social issues concerning human sexuality. *3 sem. hrs.*

SOC 323. JUVENILE DELINQUENCY: The environmental and internal factors that influence or determine delinquent behavior; roles of individual juvenile offenders, parents or guardians, school, church, police, business community, community agencies, and the juvenile justice and correctional system in preventing and treating delinquent behavior. *3 sem. hrs.*

SOC 325. DEVIANT BEHAVIOR: Description of various types of deviant behavior; for example, mental illness, alcoholism, drug addiction, the professional criminal. Study of explanations for the consequences and the role of deviant behavior in modern society. *3 sem. hrs.*

- SOC 326. LAW AND SOCIETY: Study of the legal system and practices from a sociological point of view; the historical origin and role of the law in society, issues relating to the law as an instrument of social control and/or social change; analysis of the legal profession. *3 sem. hrs.*
- SOC 327. CRIMINOLOGY: Social and cultural nature, origin, and development of law; criminal behavior; crime control. The influence of society in the creation and organization of legal and crime control systems. Biological, psychological, and sociological factors leading to criminal behavior. *3 sem. hrs.*
- SOC 328. RACIAL AND ETHNIC MINORITIES: Study of the major immigrant and racial groups in the United States and other countries. Issues and problems related to their minority status in the dominant culture. *3 sem. hrs.*
- SOC 330. PERSPECTIVES ON AGING: An introduction to the field of gerontology. Focus on the major physical, psychological, and social dynamics of aging. Selected issues will be highlighted. (Same as SWK 330.) *3 sem. hrs.*
- * SOC 331. MARRIAGE AND THE FAMILY: Historical, cross-cultural, and current study of social relationships during dating and courtship, interpersonal communication in marriage and family life, sexuality in marriage, adjustments in parenthood, divorce and remarriage, alternatives to traditional marriage, and the future of marriage and family life. *3 sem. hrs.*
- SOC 332. SOCIOLOGY OF WOMEN: Cross-societal analysis of the position of women, with emphasis on industrialized and developing societies. The social positions of women and men in the family, work, politics, and the legal system. Consideration of theories of the biological, psychological, and sociological bases for the behavior and characteristics of women in the context of societal institutions. *3 sem. hrs.*
- SOC 334. RELIGION AND SOCIETY: Definitions of religion and its role in society. Traditional and nontraditional expressions of religious life from the viewpoint of society. Varieties of religious experience and the interrelations between religious phenomena and other social institutions and societal behavior. *3 sem. hrs.*
- SOC 336. ORGANIZATIONS IN MODERN SOCIETY: Analysis of the dynamics of organizations in modern industrial society. Organizational social psychology, organizational structure and process, and organization-community relations. *3 sem. hrs.*
- SOC 337. POLITICAL SOCIOLOGY: Study of political power. Political influence by economic elites, impact of bureaucracies, competing ideologies, alienation and nonvoting, and social movements as challenges to power structures. *3 sem. hrs.*
- SOC 339. SOCIAL INEQUALITY: Study of social inequality in society. Emphasis on the processes that divide people into unequal groups based on wealth, status, and power. The effects of inequality on individual life chances and life styles. *3 sem. hrs.*
- SOC 340. SOCIAL PSYCHOLOGY IN SOCIETY: Survey of the basic principles, concepts, theories, and methods of social psychology from the sociological perspective. *3 sem. hrs.*
- * SOC 341. SELF AND SOCIETY: Study of the relationship between self and others. Socialization, self conceptions, deviant behavior, social influence, and social control. *3 sem. hrs.*
- SOC 342. COLLECTIVE BEHAVIOR: Study of social protest, crowds, social movements, revolution, fads, fashion, public opinion processes, propaganda, and political and social responses to these phenomena. *3 sem. hrs.*

- SOC 343. MASS COMMUNICATION IN MODERN SOCIETY: Social-psychological analysis of the structure and processes of mass communication related to advertising, patterns of social behavior, social change, propaganda, censorship, media control, and social institutions. *3 sem. hrs.*
- SOC 345. SMALL GROUP DYNAMICS: Study of the social structures, relationships, and processes of small groups, including families, friends, work groups, and small organizations. *3 sem. hrs.*
- SOC 350. NATIONAL AND WORLD POPULATION TRENDS: Causes and consequences of national and world population trends; impact of population change on society; impact of social change on birth rates, death rates, migration, population composition and distribution. *3 sem. hrs.*
- SOC 351. URBAN SOCIOLOGY: The study of the development of urban life from ancient times to the present, with an emphasis on contemporary urban population characteristics, social-economic-political structure, and problems. *3 sem. hrs.*
- * SOC 352. COMMUNITY: Study of the interaction of groups and individuals related by common situations, problems and intentions; creation, maintenance, eclipse, and restoration of close social ties in urban neighborhoods, small towns, and groups with similar interests and lifestyles. *3 sem. hrs.*
- SOC 355. FAMILIES AND THE ECONOMY: The relationship between families and their socio-economic environment. Consideration of public issues including family policy and government programs to assist families. *3 sem. hrs.*
- SOC 357. SOCIOLOGICAL PERSPECTIVES OF TECHNOLOGY: Study of the relation between society and technology. Issues include conceptions of society and technology; sources, uses, and impacts of technology; professional conduct in relation to technology; and various forms of the relation between society and technology. *3 sem. hrs.*
- SOC 392. SELECTED TOPICS IN SOCIOLOGY: Examination of a current topic of general interest in sociology. Majors and nonmajors may enroll. Consult composite for topics. May be repeated as topic changes. *1-6 sem. hrs.*
- SOC 398. SOCIOLOGICAL FIELD EXPERIENCE: Supervised research or community service experience complementing a specific upper division sociology course that is being taken concurrently. Prerequisite: Permission of instructor. Can be taken three times. *1 sem. hrs.*
- SOC 409. SENIOR SEMINAR IN SOCIOLOGY: Synthesis of previous coursework; examination of the logic of social inquiry through the analysis of competing sociological perspectives on a particular issue. Required for majors. Prerequisite: Permission of instructor. *3 sem. hrs.*
- SOC 437. MARX AND SOCIOLOGY: Study of Marx's writings on topics relevant to the social sciences. Comparison of contemporary Marxian scholarship in such areas as social inequality, political structures, urban change, ideology and consciousness, and models for the future. Prerequisite: Junior or senior standing. *3 sem. hrs.*
- SOC 438. URBAN POVERTY: Study of the social factors that contribute to poverty in cities. Consideration of the social effects of government and other programs to alleviate poverty. *3 sem. hrs.*

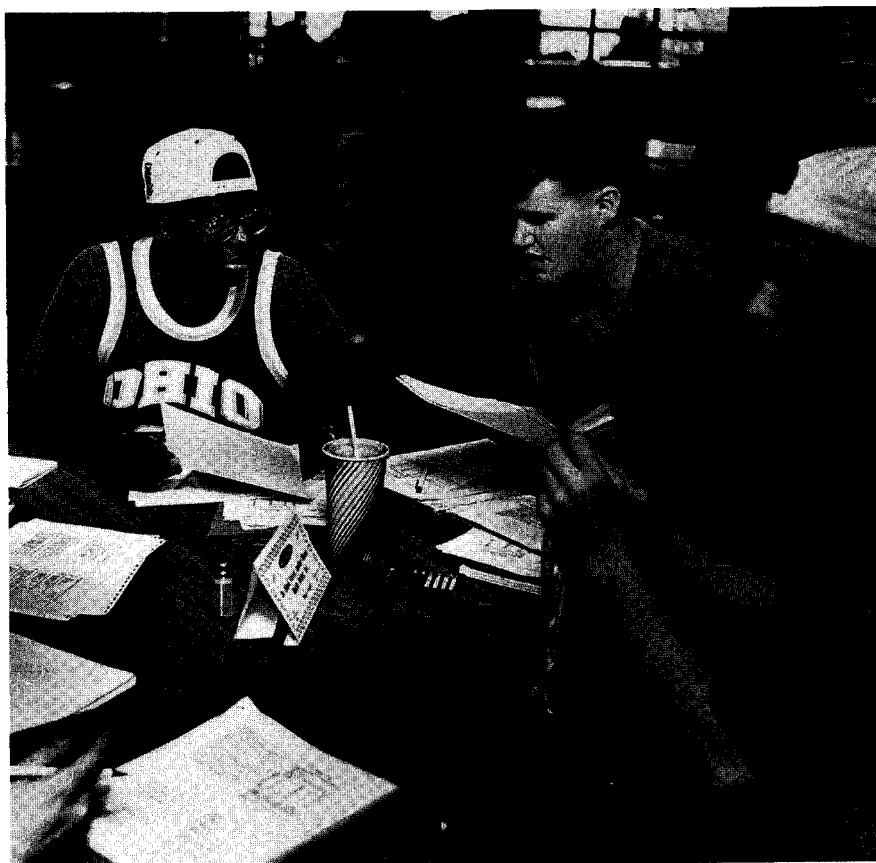
SOC 444. INTERACTION PROCESSES: Advanced study of the interaction processes of social life. Bargaining and negotiation, cooperation, social influence, solidarity, competition, and conflict. *3 sem. hrs.*

SOC 492. SPECIAL TOPICS IN SOCIOLOGY: Intensive examination of current theoretical or methodological issues; faculty-advised research project or library work. Consult composite for topics. May be repeated as topic changes. Prerequisite: Permission of instructor. *1-6 sem. hrs.*

SOC 495. SOCIOLOGY INTERNSHIP: Supervised work experience related to course work in sociology in appropriate government, social service, and private organizations. May be repeated to a maximum of 6 sem. hrs. Prerequisite: Permission of chairperson. *1-6 sem. hrs.*

SOC 498. INDEPENDENT STUDY: Research or special readings on problems of interest to the student under the guidance of sociology staff member. Prerequisite: Permission of chairperson. *1-6 sem. hrs.*

*General Education course. See Chapter V.



EDT

TEACHER CERTIFICATION

COLLEGE BACCALAUREATE PROGRAM WITH TEACHER CERTIFICATION (E11A)

Students enrolled in the College of Arts and Sciences may enroll in the teacher education program (E11A) of the School of Education without transferring to the School of Education. The E11A program is designed for those students in the College of Arts and Sciences who wish to pursue secondary-school teaching certification and a major program of studies concurrently. Students admitted to the program must satisfy all the requirements for the Bachelor of Arts or Bachelor of Science in the College as well as the requirements designated by the School of Education and the State of Ohio for secondary school certification.

Teaching fields represented in the College of Arts and Sciences are Art, Biological Science, Chemistry, Communication, Computer Science, Drama/Theatre, Earth Science, English, General Science, History, Journalism, Language (Latin, French, German, Spanish), Mathematics, Music, Physical Science, Physics, Political Science, Psychology/Sociology, Social Studies, Speech/Communication, Theology (Religious Studies).

The education courses below constitute a minor concentration in the College degree program. They are listed in the order in which students usually take them. For course descriptions see EDT, Chapter VIII.

		<i>Semester Hours</i>
EDT 110	The Profession of Teaching	3
EDT 207	Child and Adolescent in Education	3
EDT 208	Teaching and Learning	3
EDT 318	Human Relations in Education	2-4
EDT 351	School, Self and Society	3
— —	Methods course (fall term only)	4
EDT 469	Reading in the Content Areas	2
EDT 420	Student Teaching: Secondary	12
EDT 419	Philosophy of Education	3

Application for admission to the program is made through the Office of the Dean of the College of Arts and Sciences. Applicants should normally have cumulative grade-point averages of at least 2.9 at the time of their application. Counseling relative to the degree program is given by the student's major department; counseling relative to certification is given by the chairperson of the Department of Teacher Education or a designated advisor.

THEATRE (THR)

A major in theatre, offered by the Department of Communication, provides a solid academic foundation and an extensive series of theatre productions, including major productions in Boll Theatre and experimental work in the Studio Theatre.

Theatre majors are required to audition for roles and participate in each major production, for which they receive credit in THR 100 or 300.

A minor in theatre requires a total of 21 semester hours: 3 each in THR 105, 203, 100 and/or 300, 415 or 425; and 9 additional at the 300 level and above. Courses in dance are not included.

The Department of Communication also offers a concentration in THR (CTR), as an option for the B.A. degree in Communication. See CMM.

PROGRAM A17: BACHELOR OF ARTS WITH A MAJOR IN THEATRE (THR)¹

	<i>Semester Hours</i>
Theatre requirements and electives	38
THR 100 and/or 300, 105, 305, 310, 325 or 326, 330, 340, 415 or 425, 440 or 485 or 490	29
THR electives	9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and religious studies	12
Communication skills	0-9
First-year experience: ASI 150	0-1
General Education courses and academic electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

FACULTY

Thomas D. Skill, *Chairperson, Department of Communication*
Professor: Gilvary
Assistant Professors: Anderson, Selka

COURSES OF INSTRUCTION

THR 100. THEATRE LABORATORY: Credit allowance for role playing and/or play production in major productions. Fifty hours of work minimum for one sem. hr. of credit. Repeatable up to 3 sem. hrs. in first and second years. All registration retroactive. No advance registration. Three sem. hrs. from THR 100 or 300 required of all majors.

1-3 sem. hrs.

* THR 105. INTRODUCTION TO THE THEATRE: Analysis of the nature of theatre, its origin, and development from the standpoint of the play, the physical theatre, and its place in our culture. Required of all majors. Open to all University students. *3 sem. hrs.*

THR 201. BASIC DANCE FOR THE PERFORMING ARTIST: Beginning course in movement introducing the basic principles of dance and performance technique. Open to all University students. *2 sem. hrs.*

THR 202. STAGE MAKEUP: The basic principles of the art and technique of makeup so that the student may use them in design and execution to develop and project the character. Open to all University students. First term. Studio fee. *2 sem. hrs.*

THR 203. TECHNICAL PRODUCTION: Introductory survey of scene design, construction, painting, and lighting. Current theory will be examined along with practical applications and techniques. *3 sem. hrs.*

THR 261. BEGINNING JAZZ DANCE: Beginning course in the theory and practice of jazz dance. *2 sem. hrs.*

THR 271. BEGINNING BALLET: Beginning course in the theory and practice of classical ballet technique. *2 sem. hrs.*

THR 300. THEATRE LABORATORY: The third and fourth-year level of credit allowance for role playing and/or play production. Requirements and registration same as for THR 100. *1-3 sem. hrs.*

THR 301. INTERMEDIATE DANCE FOR THE PERFORMING ARTIST: Intermediate-level course in movement for students interested in further developing dance and performance technique. Prerequisite: THR 201. *2 sem. hrs.*

THR 303. SCENE PAINTING: Basic principles of color paint theory and materials. Investigation of various scene-painting techniques. One three-hour class meeting weekly. Studio fee. Prerequisite: Permission. *3 sem. hrs.*

THR 305. THEATRE STAGECRAFT: Study and application of scene construction, rigging, backstage organization, production analysis, and technician-designer relationship. Required of all majors. Studio fee. *3 sem. hrs.*

THR 307. THEATRE LIGHTING: Study and application of lighting for the stage: instrument, controls, sources, elements of electricity, and lighting design for all types of theatres, as well as graph representation. Studio fee. *3 sem. hrs.*

THR 310. ACTING I: The study and practice of basic techniques in rehearsal and performance. Emphasis on self-analysis and self-awareness. Development of basic skills in vocal, emotional, and mental interpretation of character. Prerequisite: THR 105 or permission. Corequisite: THR 211. Required of all theatre majors. *3 sem. hrs.*

THR 323. ACTING II: Further study and practice of techniques introduced in Acting I. Emphasis on interaction, ensemble, group processes, and scene study. Prerequisites: THR 105, 310, or permission. *3 sem. hrs.*

THR 324. THEATRICAL MOVEMENT: Emphasis on interpreting and employing body language. Corequisite: THR 323. Prerequisites: THR 105, 310, or permission. *2 sem. hrs.*

THR 325. THEORY AND CRITICISM OF THE STAGE I: Survey of representative plays from classical to neo-classical periods as a basis for theatrical production and dramatic criticism. Prerequisite: THR 105. (THR 325 or 326 required of all majors.)

3 sem. hrs.

THR 326. THEORY AND CRITICISM OF THE STAGE II: Continuation of THR 325 from romantic to modern periods. Prerequisite: THR 105. (THR 325 or 326 required of all majors.)

3 sem. hrs.

THR 330. CONCEPTS OF SCENE DESIGN: Studies in the principles of composition and aesthetic theory as applicable to scene design. Development of personal design approach to plays of various styles. Required of all theatre majors.

3 sem. hrs.

THR 340. THE DIRECTOR IN THE THEATRE: The basic functions of a director in the production of play: interpretation, composition, movement, characterization, rhythm, design concept, and actor training. Required of all theatre majors. Prerequisites: THR 105, 305, 310, 330.

3 sem. hrs.

THR 350. THEATRE STYLES: Examination of the relationships among playwright, audience, actor, designer, and director in the development of major theatre styles of expression.

3 sem. hrs.

THR 361. INTERMEDIATE JAZZ DANCE: An intermediate course in the theory and practice of jazz dance and technique. Prerequisite: THR 261 or equivalent.

2 sem. hrs.

THR 371. INTERMEDIATE BALLET: Intermediate course in the theory and practice of classical ballet technique. Prerequisite: THR 271 or equivalent.

2 sem. hrs.

THR 414. ADVANCED SCENE DESIGN: Individual development in scene design through intensive study in plays of various styles. Detailed representation of design ideas in rendering and models required. Prerequisites: THR 205, 207, 330.

3 sem. hrs.

* THR 415. HISTORY OF THE THEATRE I: History of theatre from pre-Grecian through Elizabethan; the physical theatre as reflection of and influence on civilization. (THR 415 or 425 required of all majors.) Open to all University students.

3 sem. hrs.

THR 424. PLAY DIRECTING: Study of the evolution of the modern director and the direction of two one-act plays or one full-length play. Prerequisite: THR 340. Studio fee.

3 sem. hrs.

THR 425. HISTORY OF THE THEATRE II: Continuance of 415 from the Italian Renaissance to the modern theatre. (THR 415 or 425 required of all majors.) Open to all University students.

3 sem. hrs.

THR 440. PROBLEMS IN THEATRE PRODUCTION AND DESIGN: Individual research and project work of student's selection under the direct supervision of faculty. Repeatable up to 12 sem. hrs. Prerequisite: Permission.

3 sem. hrs.

THR 485. THEATRE SEMINAR: Concentration on one theatrical figure, genre, or period for research and analysis. (THR 485 or 490 required of all majors.) Repeatable up to 6 sem. hrs.

3-6 sem. hrs.

THR 490. SPECIAL PROBLEMS IN THEATRE: Individual research and report on topic of student's choice in the field of theatre under direct supervision of faculty/staff. (THR 485 or 490 required of all majors.) Repeatable up to 15 sem. hrs.

3-5 sem. hrs.

*General Education course. See Chapter V.

VAR

VISUAL ARTS (VAR)

The Department of Visual Arts teaches the perceptual, practical, and critical skills necessary for the creation and understanding of art in a variety of media and contexts. It also teaches the history of the visual arts and cultivates the ability to appreciate and articulate their meaning and value. The department emphasizes the highly integrative nature of the visual arts and their immense cultural and personal importance. In addition, the department offers opportunities for professional career development in many different fields.

The department offers seven degree programs:

- Bachelor of Arts with a Major in Fine Arts (A18)
- Bachelor of Fine Arts with a Major in Fine Arts (A18A)
- Bachelor of Fine Arts with a Major in Visual Communication Design (A19A)
- Bachelor of Arts with a Major in Photography (A20)
- Bachelor of Fine Arts with a Major in Photography (A20A)
- Bachelor of Arts with a Major in Interior Design (A21)
- Bachelor of Fine Arts with Teacher Certification (A22)

Visual Arts Minors

A minor in Fine Arts requires 21 semester hours: VAF 104, 112; VAH 201 or 202 or 203; and 12 additional semester hours of VAF electives.

A minor in Visual Communication Design requires 24 semester hours. Students should consult with the area coordinator for specific information concerning requirements.

A student who chooses Photography as a minor must complete 12 semester hours of VAP 300-400-level courses and any prerequisites for those courses.

A minor in art History requires 18 semester hours: six semester hours of survey courses chosen from VAH 201, 202, and 203 and 12 additional semester hours of Art History electives at the 300-400-level.

Visual Arts Foundations

Visual Arts foundation courses introduce students to fundamental principles, practices, materials, and vocabulary common to all visual arts disciplines. These courses provide a common background of skill development along with an understanding of primary concepts in the visual arts and a basis for critical evaluation. All foundation courses share the objective of preparing students to face the challenges of their specific disciplines.

FINE ARTS

The Bachelor of Arts (B.A.) with a Major in Fine Arts offers a program of study that introduces the student to a variety of media and approaches to the visual arts. This program combines the richness of a liberal arts education with opportunities to explore several possible directions in the visual arts.

The Bachelor of Fine Arts (B.F.A.) with a Major in Fine Arts offers a more intensive exploration of selected media and greater depth of study in a more extensive selection of visual arts courses.

PROGRAM A18: BACHELOR OF ARTS WITH A MAJOR IN FINE ARTS (ART)¹

	<i>Semester Hours</i>
Major program requirements	44
VAF 104, 112, 206, 216, 217, 226 or 253, 240 or 330	21
Select two from VAH 201, 202, 203; 470 or 471 or 480 or 481	9
VAP 101	3
VAF or VAP electives (300-400)	11
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and/or religious studies	12
First-year experience: ASI 150	0-1
Program and general electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

PROGRAM A18A: BACHELOR OF FINE ARTS WITH A MAJOR IN FINE ARTS (STA)¹

	<i>Semester Hours</i>
Major program requirements	77
VAF 104, 112, 206, 207, 216, 217, 226, 253, 306, 330, 332, 354, 495, 496	38
Select two from VAH 201, 202, 203; VAH electives (300-400 level)	12
VAP 101	3
VAF concentration	12
Visual arts electives	12
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	9
Humanities	12
Philosophy and/or religious studies	12
First-year experience: ASI 150	0-1
Program and general electives to total at least	120-130

¹See Chapter V for General Education Requirements.

VISUAL COMMUNICATION DESIGN

The Visual Communication Design B.F.A. program combines a liberal arts education with traditional visual arts foundation and visual communication design courses. It prepares students for professional careers in graphic design, advertising design, illustration, and related fields. Attention is given to conceptual and visual problem-solving as well as the various ways in which design is used and how and why it is a significant cultural force. Program options include (1) design; (2) illustration, and; (3) computer imaging.

PROGRAM A19A: BACHELOR OF FINE ARTS WITH A MAJOR IN VISUAL COMMUNICATION DESIGN (VCD)¹

	<i>Semester Hours</i>
Major program requirements	84
<i>Design concentration:</i>	
VAF 104, 112, 206, 216, 217, 226	18
VAD 215, 312, 315, 320, 350, 411, 412, 415, 498, 499	26
VAR 200	1
VAP 101, VAP elective	6
Select two from VAH 201, 202, 203; 390	9
Visual arts electives	18
Marketing or Communication	6
<i>Illustration concentration:</i>	
VAF 104, 112, 206, 207, 216, 217, 226, 303, 306	27
VAD 218, 312, 315, 321, 397, 398, 404, 498, 499	23
VAR 200	1
VAP 101	3
Select two from VAH 201, 202, 203; 390	9
Visual arts electives	15
Marketing or Communication	6
<i>Computer Imaging concentration:</i>	
VAF 104, 112, 206, 207, 216, 217, 226	18
VAD 215 or 218, 312, 315, 320 or 321, 498, 499	14
VAR 200	1
VAP 101, 240, 340, 345, 440, 445	18
Select two from VAH 201, 202, 203; 390	9
Visual arts electives	18
Marketing or Communication	6
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	3
Humanities	9
Philosophy and/or religious studies	12
First-year experience: ASI 150	0-1
Program and general electives to total at least	124-128

¹See Chapter V for General Education Requirements.

PHOTOGRAPHY

The two programs in Photography (B.A. and B.F.A.) offer many approaches to using the medium. Art, journalism, advertising, and illustration are just a few of the fields in which accomplished photographers may find rewarding careers. The B.A. program emphasizes a traditional liberal arts background with a thorough grounding in photographic practice. The B.F.A. allows for greater concentration within photography and related disciplines. Electives allow students to pursue individual interests and goals.

PROGRAM A20: BACHELOR OF ARTS WITH A MAJOR IN PHOTOGRAPHY (PHO)¹

	<i>Semester Hours</i>
Major program requirements	45
VAP 101, 201, 302, 410, 460	15
Select two: VAP 240 or 310, 320 or 321 or 322, 330	6
VAF 104, 112, 216 or 217	9
Select one from VAH 201, 202, 203; 382, 482	9
Visual Arts electives (300-400 level)	6
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and/or religious studies	12
First-year experience: ASI 150	0-1
Program and general electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

PROGRAM A20A: BACHELOR OF FINE ARTS WITH A MAJOR IN PHOTOGRAPHY (PTY)¹

	<i>Semester Hours</i>
Major program requirements	72
VAP 101, 201, 302, 410, 460, 461	18
Select two: VAP 240 or 310, 320 or 321 or 322, 330	6
VAF 104, 112, 216 or 217	9
Select two from VAH 201, 202, 203; 382, 480, 482	15
Program electives	24
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	9
Humanities	18
Philosophy and/or religious studies	12
First-year experience: ASI 150	0-1
Program and general electives to total	121-131

¹See Chapter V for General Education Requirements.

INTERIOR DESIGN

The Interior Design program combines a sound liberal arts education with the technical skills and visual awareness needed to address problems of designing interior environments. Students learn how to find solutions that are creative, efficient, and humane; they learn to apply their abilities in ways that will enhance the function and quality of homes, businesses, and workplaces.

PROGRAM A21: BACHELOR OF ARTS WITH A MAJOR IN INTERIOR DESIGN (IDE)¹

	<i>Semester Hours</i>
Major program requirements	44
VAF 104, 112, 216, 217, 330	15
Select two from VAH 201, 202, 203; 470 or 471 or 480	9
VAI 305, 308	4
HEC 314, 330, 340, 350, 395, 396	16
Communication skills	0-9
Natural science	7
Mathematics (MTH 102, 204, 205 excluded)	3
Social and behavioral sciences	12
Humanities	18
Philosophy and/or religious studies	12
First-year experience: ASI 150	0-1
Program and general electives to total at least	120

¹See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

ART EDUCATION

The Bachelor of Fine Arts with Teacher Certification, a BFA (E11) program, offers students expertise in studio practice, art history, aesthetics, and critical analysis of art. Field experience in the Dayton vicinity allows students to transform theoretical knowledge into classroom practice. Graduates have excellent opportunities for teaching positions in public or private schools K-12, as well as for master's degree programs.

PROGRAM A22: BACHELOR OF FINE ARTS WITH TEACHER CERTIFICATION (E11) (FAE)¹

	<i>Semester Hours</i>
Major program requirements	63
VAF 104, 112, 206, 207, 216, 217, 226, 240, or 331, 253 or 354, 330, 495, 496	32
VAE 483	4
Select two from VAH 201, 202, 203; 470 or 471 or 480 and VAH elective	12
VAP 101	3
Visual arts electives	12
Education requirements: EDT 110, 207, 208, 318, 351, 419, 421, 469	28-30
Communication skills	0-9
Natural science	6
Mathematics (MTH 102, 204, 205 excluded)	3

Social and behavioral sciences	3
Humanities	6
Philosophy and/or religious studies (must include EDT 419)	12
First-year experience: ASI 150	0-1
Program and general electives to total	121-131

¹See also Chapter V for General Education Requirements.

FACULTY

Sean Wilkinson, *Chairperson*

Professor: Wilkinson

Associate Professors: Edwards, Gooch, Hitt, Niles, Wilbers, Zahner

Assistant Professors: Crum, Langa, Marcinowski, Matlack

Visting Assistant Professor: Whitaker

Lecturer: Britt

Part-time Instructors: Baker, Clarke, Cleary, Faris, Grant, Holihan, Lucous, Martino, Missall, Peterson, Rudegeair, Schmitt, Stephan, Weber

COURSES OF INSTRUCTION

FINE ARTS

VAF 103. INTRODUCTORY DRAWING: Introduction to basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, and expressive freedom. Open to all students. 2 sem. hrs.

VAF 104. INTRODUCTORY DRAWING: Introduction of basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, volume in space, and expressive freedom. Studio fee. 3 sem. hrs.

VAF 111. PRINCIPLES OF DESIGN: Study of the underlying elements and principles of design as they are applied to surface pattern. Color theories and their use in creative design. Open to all students. 2 sem. hrs.

VAF 112. PRINCIPLES OF DESIGN: Study of the underlying elements and principles of design as they are used in two-dimensional composition and the creation of illusionistic three-dimensional space. 3 sem. hrs.

VAF 206. INTRODUCTORY FIGURE DRAWING: Studies of the nude model and the skeleton. Methods of expressing the human form using norms of proportion and distortion. Gesture study and expression with a variety of media to develop basic visual vocabulary. Prerequisite: VAF 104. Model fee. 3 sem. hrs.

VAF 207. INTERMEDIATE FIGURE DRAWING: Emphasis on integrating work done in VAF 206 with composition. Development of finished drawings with convincing volume and space. Continued study of the nude figure plus anatomical diagrams. Prerequisite: VAF 206. Model fee. 3 sem. hrs.

- VAF 216. DESIGN AND COLOR: The study of color based on historical and contemporary color theories and the use of color in expressing and integrating design concepts. Prerequisite: VAF 112 or permission. *3 sem. hrs.*
- VAF 217. FUNDAMENTALS OF 3-D DESIGN: Introduction to basic principles and practices of design in three dimensions. Emphasis on current theory and construction techniques using a variety of media and methods. Studio fee. *3 sem. hrs.*
- VAF 226. INTRODUCTORY PAINTING: Painting with oils and acrylics; introduction to basic painting principles, techniques, and materials; still life, landscape, figure, and abstraction. Prerequisites: VAF 104, 112, 216, or permission. *3 sem. hrs.*
- VAF 228. INTRODUCTORY WATERCOLOR: Principles and techniques of transparent watercolor. Emphasis on technical mastery. Prerequisites: VAF 104, 112, 216, or permission. *3 sem. hrs.*
- VAF 240. CERAMICS—HAND BUILDING: Introduction to basic methods of working in clay using coil and slab techniques. Studio fee. *3 sem. hrs.*
- VAF 253. INTRODUCTORY PRINTMAKING: Introduction to the traditional printmaking methods of woodcut, intaglio, and lithography. Instruction in edition-printing techniques and curating of prints. Prerequisites: VAF 104, 112, or permission. Studio fee. *3 sem. hrs.*
- VAF 303. ADVANCED DRAWING: Observational and expressive drawing. Use of accumulated knowledge from previous drawing experiences to develop individual creativity and original style. Portrait study and field trips. Prerequisites: VAF 206-207 or permission. Model fee. *3 sem. hrs.*
- VAF 306. INTERMEDIATE PAINTING: Painting with oils or acrylics; continuing study of the principles and techniques of painting, with emphasis on personal expression and experimentation. Prerequisite: VAF 226 or 228 or permission. Studio fee. *3 sem. hrs.*
- VAF 309. INTERMEDIATE WATERCOLOR: Continuing investigation of watercolor techniques, both traditional and experimental. Still life, figure, landscape, and abstraction. Prerequisite: VAF 228 or permission. *3 sem. hrs.*
- VAF 316. LIFE STUDIES: Studies in drawing from the live model, both nude and clothed, for practice and refinement of technique. Variety of media permitted. Prerequisites: VAF 104, 206, 207; junior or senior status. Repeatable up to 4 sem. hrs. Model fee. *1 sem. hr.*
- VAF 319. STUDIO: A faculty-supervised time block that allows students to pursue work in a variety of media as designated in the course composite by area: painting, drawing, etc. Prerequisites: 6 sem. hrs. of course work in the area selected or permission of the instructor. Repeatable up to 18 sem. hrs. Studio fee. *3 sem. hrs.*
- VAF 325. FIGURE PAINTING: Painting from the model with a variety of media. Traditional and contemporary approaches to the figure. Prerequisite: VAF 206 or 207, 226 or permission. Model fee. *3 sem. hrs.*
- VAF 330. INTRODUCTORY SCULPTURE: Consideration of forms as a means of developing an understanding of mass, shape, and control of medium. The use of various materials such as wood, plaster, and clay, with emphasis on integrating material with personal expression. Studio fee. *3 sem. hrs.*

- VAF 331. CERAMICS—WHEEL THROWING: Introduction to basic methods of working clay using the wheel. Studio fee. *3 sem. hrs.*
- VAF 332. INTERMEDIATE SCULPTURE: Continued exploration of three-dimensional concepts and materials, concentrating on wood, stone, and metal. Prerequisite: VAF 330 or permission. Studio fee. *3 sem. hrs.*
- VAF 340. CREATIVE FIBER DESIGN: Investigation of soft sculpture, macrame, stitchery, and textile printing. Experiences with fiber media and processes oriented around perception and awareness of fiber properties. Studio fee. *2 sem. hrs.*
- VAF 341. WEAVING: Exploration of fabrics with emphasis on the functional aspects of handweaving, including use of the loom. Fiber construction, basketry, stitchery, hooking, batik, and macrame. Prerequisites: VAF 111 or 112. Studio fee. *2 sem. hrs.*
- VAF 343. RAKU: A 400-year-old Japanese ceramic glaze firing technique adapted for the contemporary potter. Study includes glaze formulation, handbuilding and/or wheel throwing techniques. Studio fee. *3 sem. hrs.*
- VAF 354. PRINTMAKING—INTRODUCTORY SILKSCREEN: Introduction to silkscreen printing, covering all methods of stencil preparation: paper, block-out, cut film, and light-sensitive film. Emphasis on edition-printing techniques and professional portfolio preparation. Prerequisite: VAF 253 or permission. Studio fee. *3 sem. hrs.*
- VAF 355-356. PRINTMAKING—INTERMEDIATE AND ADVANCED SILK SCREEN: Further development of technical skills and creative applications in silk screen production. Prerequisite: VAF 354. Studio fee. *3 sem. hrs. each*
- VAF 357. PRINTMAKING—LITHOGRAPHY: Investigation of lithographic printing techniques. Emphasis on metal plate technology and production of print editions. Prerequisite: VAF 253 or permission. Studio fee. *3 sem. hrs.*
- VAF 358. PRINTMAKING—INTAGLIO: Advanced work in intaglio printing, including dry-point, color etching, aquatint, sugar-lift, and experimental etching methods. Prerequisite: VAF 253 or permission. Studio fee. *3 sem. hrs.*
- VAF 362. COPPER ENAMELING: Basic principles and techniques of enameling on copper, in stencil, graffito, wet-pack painting, cloisonne, and champleve. Design and execution of original pieces in each of these processes. Prerequisite: VAF 112. Studio fee. *3 sem. hrs.*
- VAF 364. JEWELRY CONSTRUCTION: Basic principles of construction with special emphasis on soldering techniques, use of tools, and the design of the piece of work. Prerequisite: VAF 112. Studio fee. *3 sem. hrs.*
- VAF 366. JEWELRY CASTING: The complete jewelry-casting process: designing of original pieces, making the wax models, spruing, investing, burning out, casting, and finishing. Emphasis at the beginning of the course on learning the process and correct procedures; later emphasis on the aesthetic and sculptural nature of the piece of work. Studio fee. *3 sem. hrs.*
- VAF 367. STAINED GLASS: Introduction to the techniques of cutting glass, use of tools, copper foil, and leaded came. Emphasis in the first half of the course on technical skills and good design in building small windows. In the latter half, more advanced work in three-dimensional object building. Studio fee. *3 sem. hrs.*

VAF 392. CALLIGRAPHY: Principles of lettering; study of vertical and slant script styles. Applications in finished pieces of work. *3 sem. hrs.*

VAF 436. ADVANCED PAINTING: Directed advanced studio problems; contemporary issues in painting. Prerequisites: VAF 306, 325, or permission. Studio fee. *3 sem. hrs.*

VAF 490. SPECIAL PROBLEMS: A course for advanced individual work in fine arts. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. *1-5 sem. hrs.*

VAF 495-496. GRADUATION PORTFOLIO: Required of all B.F.A. fine arts and art education (E11) majors, to be taken during the senior year. Covers both aesthetic and pragmatic aspects of creating a portfolio. Faculty approval of portfolio is required for graduation. Grading option 2. *1 sem. hr. each*

INTERIOR DESIGN

VAI 305. DRAWING FOR INTERIOR DESIGN I: Design and practice in the marker medium. Emphasis on presentation. Prerequisite: VAF 104. Studio fee. *2 sem. hrs.*

VAI 308. DRAWING FOR INTERIOR DESIGN II: Use of markers in rendering sketches that enable a client to visualize the designer's ideas. Prerequisite: HEC 395, VAI 305. Studio fee. *2 sem. hrs.*

VAI 490. SPECIAL PROBLEMS: A course for advanced individual work in interior design. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. *1-5 sem. hrs.*

VISUAL COMMUNICATION DESIGN

VAD 215. COMPUTER APPLICATIONS—DESIGN: An introduction to page design software programs and their use in the design process. Prerequisite: VAR 200 or permission. Studio fee. *3 sem. hrs.*

VAD 218. COMPUTER APPLICATIONS—ILLUSTRATION: An introduction to drawing and paint software programs and their use in illustration. Prerequisite: VAR 200 or permission. Studio fee. *2 sem. hrs.*

VAD 307. DRAWING FOR GRAPHIC DESIGN: Exploration of materials, procedures, and drawing techniques for design presentations. Prerequisite: VAF 104 or permission. Studio fee. *3 sem. hrs.*

VAD 312. VISUAL FORM: Investigation of the perceptual and psychological effect of the visual elements—line, shape, value, volume, texture, and color—in visual communication. Exploration of word and image relationships. Prerequisite: VAF 216. Studio fee. *3 sem. hrs.*

VAD 315. TYPOGRAPHY: The fundamentals of typography and typographic design. Investigation of type as a functional and expression communication vehicle. Studio fee. *3 sem. hrs.*

VAD 317. AIRBRUSH TECHNIQUE: Fundamental course in the principles of air-brush in illustration and design. Prerequisites: VAF 104, 216. Studio fee. 3 sem. hrs.

VAD 318. GRAPHIC DESIGN FOR THREE DIMENSIONS: Investigation of materials, processes, and three-dimensional aesthetic principles applicable to packaging, product, exhibition, and environmental design. Prerequisite: VAF 217, 315, or permission. Studio fee. 3 sem. hrs.

VAD 320. COMPUTER-AIDED GRAPHIC DESIGN: An exploration of the use of the computer as both a tool and a medium for the design and production of visual communication. Prerequisites: VAD 215, 315, or permission. Studio fee. 3 sem. hrs.

VAD 321. COMPUTER-AIDED ILLUSTRATION: An exploration of the use of the computer as both a tool and a medium for the creation and production of illustrations. Prerequisites: VAD 218, 315, or permission. Studio fee. 3 sem. hrs.

VAD 350. DESIGN PROCESS: Focus on the development of visual communication, including concept development, visualization techniques, presentation formats, and production methods. Prerequisite: VAD 215, 312, 315, or permission. Studio fee. 3 sem. hrs.

VAD 395. ADVERTISING DESIGN: Emphasis on print advertising, its creation and presentation. Concept development and attention to advertising layouts that carry motivating images and messages to consumers about products, services, or ideas. 3 sem. hrs.

VAD 397. ILLUSTRATION I: Attention to conceptual, visual, and technical development. Exploration of various media and techniques employed by the illustrator in creating images for printed communication. Prerequisite: VAF 104 or permission. Studio fee. 3 sem. hrs.

VAD 398. ILLUSTRATION II: Interpretation and representation of concepts, products, or stories for magazines, books, newspapers, and advertising. Continued technical development with a variety of materials, media, and techniques. Prerequisite: VAD 397. Studio fee. 3 sem. hrs.

VAD 404. ILLUSTRATION III: Focus on developing an individual point of view and illustration style. Prerequisite: VAD 398. Studio fee. 3 sem. hrs.

VAD 411. GRAPHIC DESIGN I: Study, design, and application of marks, logos, and symbols in visual communication. Attention to effective visual relationships between typographic elements and images. Prerequisites: VAD 315, 350. Studio fee. 3 sem. hrs.

VAD 412. GRAPHIC DESIGN II: Continued study of effective visual relationships between typographic elements and images. Emphasis on sequential page design. Prerequisite: VAD 411 or permission. Studio fee. 3 sem. hrs.

VAD 415. GRAPHIC DESIGN III: The study and design of identification and image systems for products, organizations, institutions, or corporations. Emphasis on continuity in the application of visual communication factors. Prerequisites: VAD 411. Studio fee. 3 sem. hrs.

VAD 480. VISUAL COMMUNICATION DESIGN INTERNSHIP: Opportunities for advanced development and practical experience in professional working environments. Prerequisite: second semester junior status or permission. Repeatable up to 12 sem. hrs. 3 sem. hrs.

VAD 490. SPECIAL PROBLEMS: A course for advanced individual work in design or illustration. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. 1-3 sem. hrs.

VAD 498. PROFESSIONAL SEMINAR: Information and study of the visual communications profession: the business aspects, job-searching skills. Grade option 2. 1 sem. hr.

VAD 499. GRADUATION PORTFOLIO IN VISUAL COMMUNICATION DESIGN: Criteria for and assistance with selection, preparation, and presentation of a body of work of professional quality. Resumé writing. Approval of the portfolio and resumé are required for graduation. Grade option 2. Studio fee. 2 sem. hrs.

ART EDUCATION

VAE 101. FUNDAMENTALS AND MATERIALS OF ART: Acquaints beginners with the principles and concepts of art and with the various kinds of materials and techniques used in artistic expression. Open to all students. Studio fee. 2 sem. hrs.

VAE 483. TEACHING ART IN ELEMENTARY AND SECONDARY SCHOOLS: Philosophy, curriculum, planning, diagnosis, instructional methods, materials, safety, and evaluation techniques for teaching art to students with varied needs and abilities. Art education majors only. Studio fee. First term. 4 sem. hrs.

VAE 483W. ELEMENTARY AND SECONDARY SCHOOL ART: Workshop to give the student of elementary and secondary education new approaches to teaching studio arts, art criticism, art history, and aesthetics. Studio fee. 3 sem. hrs.

VAE 490. SPECIAL PROBLEMS: A course for advanced individual work in art education. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. 1-5 sem. hrs.

PHOTOGRAPHY

VAP 101. BASIC PHOTOGRAPHY: Fundamentals of black-and-white still photography: camera function, exposure, film processing, and printing. Emphasis on gaining sound technical and creative control of the medium. No previous experience required. Studio fee. 3 sem. hrs.

VAP 201. INTERMEDIATE PHOTOGRAPHY: Specific projects to increase technical competence and expand visual awareness. Exposure, film processing and printing variables, basic lighting, and view camera controls. Prerequisite: VAP 101 or equivalent. Studio fee. 3 sem. hrs.

VAP 240. INTRODUCTION TO DIGITAL IMAGERY: Introduction to the theory and practice of computer digitizing techniques employing the use of pre-existing images for enhancement and manipulation. No prior knowledge of computers is required. Studio fee. 3 sem. hrs.

VAP 250. CREATIVE PHOTOGRAPHY GALLERY: First-hand experience in operating a photography gallery of sound reputation. Selecting and hanging exhibits, correspondence with photographers represented, production of publicity material.

2 sem. hrs.

VAP 302. COLOR PHOTOGRAPHY I: Introduction to theory and techniques of color transparency, color negative, and color printing. Practice in lighting, color emulsions, filtration, and corrections. Prerequisite: VAP 101. Studio fee.

3 sem. hrs.

VAP 310. SLIDE-TAPE PRODUCTION: Use of black-and-white or color transparencies, theory, copy techniques, masking, mounting, titling, storyboard techniques, and sound recording and editing techniques. Students produce slide tape shows using projectors, dissolve units, and audio equipment. Prerequisite: VAP 101 or permission. Studio fee.

3 sem. hrs.

VAP 320. STUDIO LIGHTING: Extensive practical experience in both tungsten and electronic flash lighting techniques. Still-life and portrait photography. Prerequisite: VAP 201. Studio fee.

3 sem. hrs.

VAP 321. STILL-LIFE PHOTOGRAPHY: Tungsten and electronic flash lighting techniques in the studio. Large and medium format cameras; primarily black and white films. Prerequisite: VAP 201. Studio fee.

3 sem. hrs.

VAP 322. PORTRAIT PHOTOGRAPHY: Studio and outdoor portrait and fashion techniques with natural, tungsten, and electronic flash lighting; all camera formats; personal and formal approaches. Prerequisite: VAP 201. Studio fee.

3 sem. hrs.

VAP 330. PHOTOGRAPHIC TECHNIQUES: Advanced and specialized darkroom techniques including alternative processes. Graphic arts materials and variations of silver processes utilized to create and manipulate imagery. Prerequisite: VAP 101. Studio fee.

3 sem. hrs.

VAP 331. ALTERNATIVE PHOTOGRAPHIC PROCESSES: More complex and challenging photographic processes and mixed media. Contemporary and traditional alternative techniques for manipulating imagery in both two and three dimensions. Prerequisite: VAP 330. Studio fee.

3 sem. hrs.

VAP 340. INTERMEDIATE DIGITAL IMAGERY: Continuation of the theory and practice of computer digitizing techniques; the incorporation of digital images into other media. Emphasis on videographic imaging and the role of digital images in art and society. Prerequisite: VAP 240. Studio fee.

3 sem. hrs.

VAP 350. VIEW CAMERA AND ZONE SYSTEM: Extensive experience with the view camera, examination of refined techniques, various applications, and concepts of large format photography. Prerequisite: VAP 201. Studio fee.

3 sem. hrs.

VAP 380. BIO-MEDICAL PHOTOGRAPHY INTERNSHIP I: The first half of a full year's commitment to thorough training in the work of the bio-medical photographer. Practical experience at a local hospital. See also VAP 480. Prerequisites: VAP 201, 302, 320, 410, 420, and permission. Studio fee.

3 sem. hrs.

VAP 390. SPECIAL PROBLEMS IN PHOTOGRAPHY: Series of assignments to guide independent study in photography, formulated to meet individual needs of the student. Prerequisites: VAP 201 and permission. Studio fee.

1-5 sem. hrs.

VAP 402. COLOR PHOTOGRAPHY II: Further study of the techniques and aesthetics peculiar to color photography. Straightforward and manipulated printing methods; masking, color analysis, chemical variations, and alternative processes such as dye transfer. Prerequisite: VAP 302. Studio fee. *3 sem. hrs.*

VAP 410. ADVANCED PHOTOGRAPHY: Students with a substantial commitment to photography and with demonstrated technical skills work on individual projects and participate in group critiques and discussion. Prerequisites: VAP 201, 302, 315. Studio fee. *3 sem. hrs.*

VAP 412. ADVANCED AUDIO-VISUAL PRODUCTION: Techniques and methods in the production of professional-quality slide and tape presentations. Advanced skill development and theory. Prerequisite: VAP 310. Studio fee. *3 sem. hrs.*

VAP 420. PHOTOJOURNALISM: A variety of ways of using photography as documentation, narrative, and propaganda. Editing of work, layout, and image-text relationships. Personal photographic essay required. Prerequisite: VAP 201. Studio fee. *3 sem. hrs.*

VAP 425. ADVANCED PHOTOJOURNALISM: Continued study of photography in the printed news media. Assignments based on actual working situations; emphasis on professional capabilities. Prerequisite: VAP 420. Studio fee. *3 sem. hrs.*

VAP 430. COMMERCIAL AND ILLUSTRATIVE PHOTOGRAPHY: Commercial, industrial, architectural, and illustrative photographic work both in the studio and on location. Individual practice in solving problems associated with professional photography. Prerequisites: VAP 320 and permission. Studio fee. *3 sem. hrs.*

VAP 435. ADVANCED COMMERCIAL PHOTOGRAPHY: Further development of skills and content introduced in VAP 430. More detailed and sophisticated aspects of photographic illustration and commercial photography. Prerequisite: VAP 430. Studio fee. *3 sem. hrs.*

VAP 440. COMPUTER MODELING AND ANIMATION II: Detailed study of spline-based modeling, surface rendering and mapping, editing complex animation sequences, motion control, and other topics. Prerequisite: VAP 345. Studio fee. *3 sem. hrs.*

VAP 445. COMPUTER MODELING AND ANIMATION III: Individual projects in conceptualization and production of animated or high-resolution sequence from storyboard to final presentation. Prerequisite: VAP 440. Studio fee. *3 sem. hrs.*

VAP 450. PHOTOGRAPHY INTERNSHIP: Practical applications of photographic skills. Opportunities for advanced development and practical experience in professional working environments. Repeatable up to 9 sem. hrs. Prerequisite: Permission. *1-3 sem. hrs.*

VAP 460-461. SENIOR SEMINAR: Each senior photography major completes a thesis-like body of work. Detailed individual critiques. Requirements include participation in a group exhibition in a recognized gallery and completion of a professional-quality portfolio. Studio fee. *3 sem. hrs. each*

VAP 480. BIO-MEDICAL PHOTOGRAPHY INTERNSHIP II: The second half of a full year's commitment to thorough training in the work of the bio-medical photographer. Practical experience at a local hospital. See VAP 380. Prerequisites: VAP 380, 420, and permission. Studio fee. *3 sem. hrs.*

Photography studio fees—\$50-\$80
Film rental fees—\$15

ART HISTORY

* VAH 101. INTRODUCTION TO THE VISUAL ARTS: Introduction to the media of painting, sculpture, and architecture in the history of art. Emphasis on understanding the technical, formal, and expressive aspects of the visual arts and the nature of the creative process. Open to all students. Fee. *3 sem. hrs.*

*VAH 201. SURVEY OF ART I: Survey of Western art from prehistory through the medieval period. Open to all students. Fee. *3 sem. hrs.*

* VAH 202. SURVEY OF ART II: Survey of Western art from the late medieval period through the Baroque. Open to all students. Fee. *3 sem. hrs.*

* VAH 203. SURVEY OF ART III: Survey of Western art from the eighteenth through the twentieth centuries. Open to all students. Fee. *3 sem. hrs.*

* VAH 350. HISTORY OF WESTERN ARCHITECTURE: Introduction to the history, theory, and practice of western architecture from prehistory to the contemporary period. Open to all students. Fee. *3 sem. hrs.*

VAH 360. WOMEN ARTISTS—A HISTORICAL SURVEY: Survey of women artists from the medieval to the contemporary period with particular emphasis on current revisionist literature and exhibitions. Open to all students. Fee. *3 sem. hrs.*

VAH370. AMERICAN PAINTING: Survey of major American artists from the colonial period to World War II with emphasis on problems of function and patronage. Prerequisite: One Survey of Art course. Fee. *3 sem. hrs.*

* VAH 382. HISTORY OF PHOTOGRAPHY I: History of the cultural, social, and aesthetic roles of photography from the camera obscura through the 1930s. Emphasis on the changing practice and perception of the medium as an art form, as social document, and as popular culture. Open to all students. Fee. *3 sem. hrs.*

VAH 390. HISTORY OF VISUAL COMMUNICATION DESIGN: Study of the significant developments, movements, and figures in the history of visual communication with an emphasis on the modern period. Open to all students. Fee. *3 sem. hrs.*

VAH 450. ITALIAN RENAISSANCE ART: Introduction to the painting, sculpture, and architecture of Italy between c. 1300 and c. 1550. Prerequisite: VAH 202 or permission. Fee. *3 sem. hrs.*

VAH 460. BAROQUE ART: Study of the major painters, sculptors, and architects of the seventeenth century. Prerequisite: VAH 202 or permission. Fee. *3 sem. hrs.*

- * VAH 470. NINETEENTH-CENTURY ART I: Study of the major artists and movements in European art from Neo-Classicism in the late eighteenth century to the beginnings of Realism in the middle of the nineteenth century. Prerequisite: VAH 203 or permission. Fee. *3 sem. hrs.*
- * VAH 471. NINETEENTH-CENTURY ART II: Study of the major artists and movements in European art from Realism at mid-century through Symbolism and Art Nouveau. Prerequisite: VAH 470 or permission. Fee. *3 sem. hrs.*
- * VAH 480. TWENTIETH-CENTURY ART: Study of the major movements and artists in the painting, sculpture, and architecture of the twentieth century. Prerequisite: VAH 203 or permission. Fee. *3 sem. hrs.*
- VAH 481. CONTEMPORARY TRENDS IN THE VISUAL ARTS: Study of the major movements and artists in painting, sculpture, architecture, and other media since 1945. Prerequisite: VAH 203, 480, or permission. Fee. *3 sem. hrs.*
- VAH 482. HISTORY OF PHOTOGRAPHY II: Discussion of the many directions in creative, documentary, and illustrative photography from the end of World War II to the present. Prerequisite: VAH 382. *3 sem. hrs.*
- VAH 490. SPECIAL PROBLEMS: Advanced, independent study with faculty direction in art history. Prerequisite: one art history course or permission. *1-5 sem. hrs.*

VISUAL ARTS

- VAR 200. INTRODUCTION TO VISUAL ARTS COMPUTING: An introduction to the computer as a tool, and the computer lab as an environment, for visual art production. Studio fee. *1 sem. hr.*
- VAR 490. SPECIAL PROBLEMS: Advanced, independent study with faculty direction in a visual arts subject or topic that is not covered in existing, discipline-specific courses. Permission. Studio fee. *1-5 sem. hrs.*

* General Education course. See Chapter V.

WOMEN'S STUDIES (WST)

The interdisciplinary minor in women's studies provides a timely academic concentration appropriate to many majors and useful in many fields. As an academic pursuit, women's studies attempts to compensate for the traditional omission from many curricula of the historical and contemporary contributions of women. It also looks to the future, intending to enhance the dignity, worth, and effectiveness of all women.

The minor in women's studies requires 13 semester hours. It must include the interdisciplinary seminar ASI 228, Focus on Women, and 12 semester hours in upper-division courses (300-level or above) from at least three different disciplines. The following courses are among those offered.

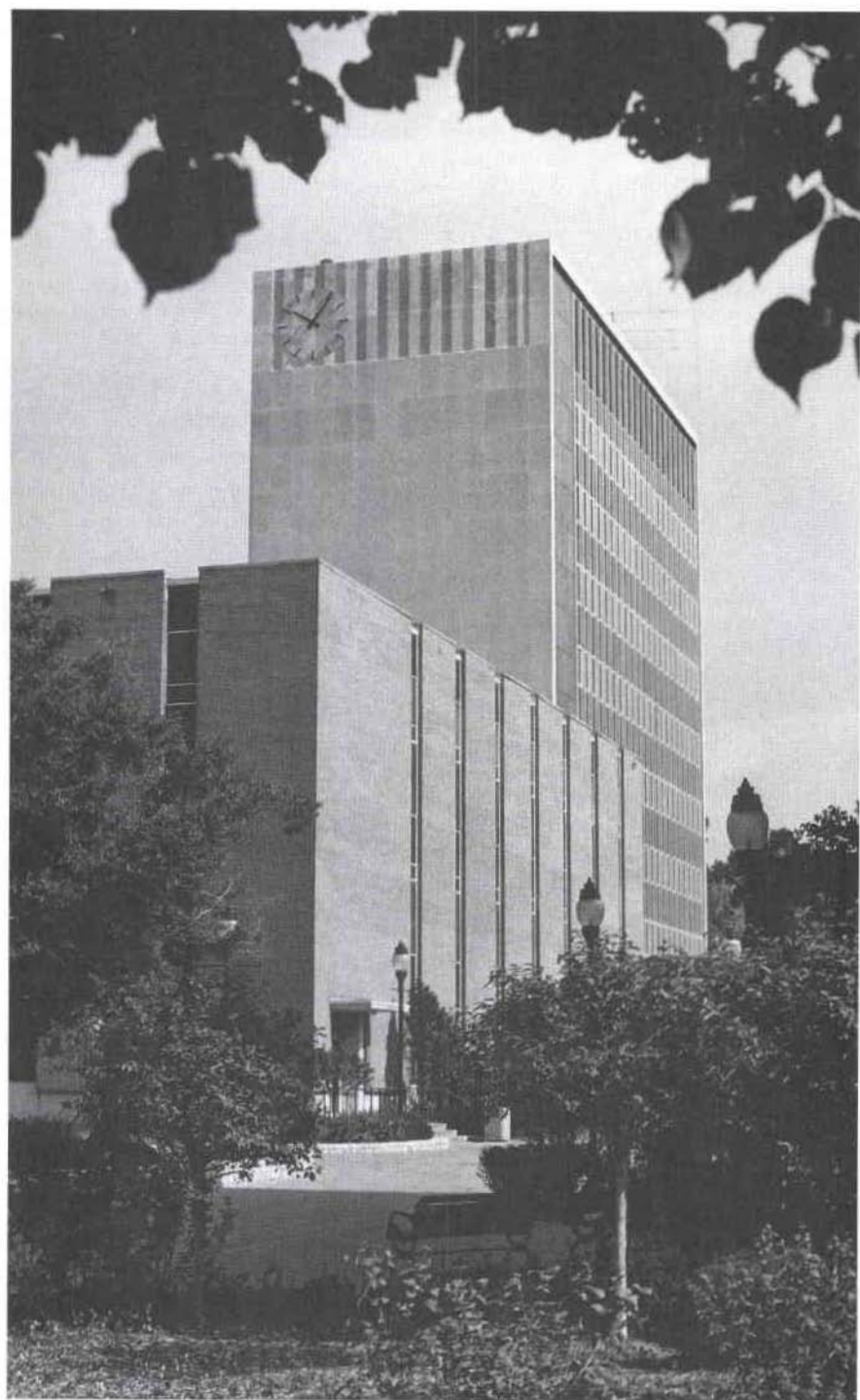
ASI	228	Focus on Women
CMM	415	Women and Communication
HPS	427	Women and Alcohol
HPS	130	Self Defense for Women
HPS	540	Women in Sport (may be taken for undergraduate credit)
ENG	204	Major American Writers: Women Writers*
ENG	319	Contemporary Fiction: Women Writers*
ENG	324	The Novel: Contemporary Women Novelists*
ENG	329	The Short Story: Women Writers*
ENG	333	Images of Women in Literature
ENG	380	Studies in Literature: Modern Women Poets*
ENG	380	Studies in Literature: Black Women Authors*
HEC	318	Family Living
HST	351	History of American Women
HST	352	History of the American Family
MGT	440	Women in Management
PHL	307	Philosophy and Women
POL	300	Women and Politics*
PSY	443	Psychology of Women
PSY	462	Human Sexuality
REL	471	Women and Religion
REL	472	Ecology and Religion
SOC	322	Sex Roles and Society
SOC	332	Sociology of Women
VAH	377	Women Artists

In addition, independent study courses and UDI courses may be applicable.

*Topics courses in various departments may be applicable if they are readily identifiable as pertinent to women's studies. Students who wish to be recorded as minoring in women's studies should notify their respective deans and the director of women's studies.

WOMEN'S STUDIES COMMITTEE

Judith G. Martin (Religious Studies), *Director of Women's Studies*
 Benz (Educational Administration), Bowen (School of Education), Courtney
 (Library), Hirshfield (History), Johnson (Philosophy), Masters (Arts Series),
 O'Meara (Languages), Pestello (Sociology, Anthropology, and Social Work),
 Roberson (Psychology), Shereen (English), Edwards (Fine Arts),
 Vesper (Arts & Sciences), R.M. Bowen (undergrad), K. Kerscher (grad).



VII School of Business Administration

Sam Gould, Dean

John E. Rapp, Associate Dean

Rebecca M.J. Yates, Associate Dean, Director of Graduate Program

Eric C. Lensmeyer, Administrative Assistant

As an academic unit of the University of Dayton, the School of Business Administration's fundamental mission for undergraduate programs is to produce graduates who can competently and ethically meet the contemporary challenges of the business professions in the complex evolving global society. In pursuing this mission, the School promotes excellence in its curriculum by setting high standards of scholarship for both students and faculty. It adheres to the principles and values in the traditions of the University of Dayton and the Society of Mary. These include the importance of faith and community in the development of human potential, emphasis on ethical and moral conduct, and the obligation to serve society.

The undergraduate curriculum has three distinct emphases: a foundation in the liberal arts, a firm grounding in the common body of business knowledge, and specialization in a business major. Supplemented with opportunities for enrichment, the curriculum stimulates critical thinking, enhances communication skills, integrates and synthesizes knowledge, and fosters ethical decision-making and moral leadership. It is built upon the enduring and fundamental bases of knowledge that can prepare students for careers in the complex global economy of the 21st century.

It is the School's philosophy that the undergraduate student should develop operational competence not only in business skills but in ethical behavior and service to others according to the Judeo-Christian tradition; become effective in articulating concepts and ideas both in oral and written communication; and develop an appreciation for the arts and humanities that enriches life and provides a basis for productive integration into contemporary Western culture with tolerance and appreciation of other cultures.

ADMISSION TO THE SCHOOL OF BUSINESS ADMINISTRATION

The minimum requirements for admission to the School of Business Administration are the following:

1. Graduation from an accredited high school
2. The following units of college preparatory subjects:

English	4 units
Mathematics (Algebra I & II, Geometry)	3 units
Natural Science with a Laboratory	1 unit
Social Science	2 units
3. Students who rank in the upper half of their high school graduating class and who have SAT scores of 950 or ACT scores of 22 are automatically eligible for admission to the School of Business Administration. Applicants who do not meet these criteria are judged on an individual basis. Consideration is given to the type of courses taken, the type of secondary school attended, and leadership activities, in addition to class rank and standardized test scores.
4. Any person whose native language is not English must submit an acceptable score in the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

TRANSFER STUDENTS

Candidates for admission from other accredited colleges or universities must be in good academic standing in the colleges or universities from which they are transferring and must have a cumulative average of at least 2.5 (on a scale of 4.0) and a grade of "C" or better in a calculus course. They must also meet the admission requirements as set by the faculty of the School of Business Administration. Upper-division business courses can be transferred only from business schools accredited by the American Assembly of Collegiate Schools of Business (AACSB). At least 75 percent of the student's business courses must be completed at the University of Dayton. Students planning to attend two-year colleges before transferring to the School of Business Administration are encouraged to follow arts and sciences or pre-business programs rather than technical terminal programs. (See also Chapter III.)

RETURNING STUDENTS

A qualified student who returns to the School of Business Administration after an absence of one calendar year or longer may be readmitted to the School of Business Administration according to the University of Dayton requirements which are applied to transfer students from other universities and colleges. (See Chapter III.) These students will be required to satisfy the program requirements which are current at the time of their readmission to the School of Business Administration. Part-time students (those who carry fewer than 12 semester hours) who are readmitted after an absence of two or more years will be required to satisfy the program requirements which are current at the time of readmission to the School of Business Administration.

REQUIREMENTS FOR THE BACCALAUREATE DEGREE

The School of Business Administration programs lead to the degree of Bachelor of Science in Business Administration upon satisfactory completion of the following requirements:

1. The candidate must complete successfully the first- and second-year business administration program, which is designed to give a wide and liberal education for a broader comprehension of the fields of business administration and economics. All students in the School of Business Administration must complete a common block of courses known as the SBA core.
2. The candidate must earn a cumulative grade point average of at least 2.0 in the total semester hours required for the degree and in the major.
3. Each candidate must complete at least 54 upper-level semester hours, with a minimum of 36 semester hours in 300-400-level courses in the School of Business Administration, of which 18 semester hours or more must be in one of the academic majors.
4. Candidates majoring in economics, finance, management, or marketing must complete a minimum of 121 semester hours. A major in accounting requires 124 semester hours, and a major in management information systems requires 127 semester hours.
5. The candidate's final 30 semester hours must be earned in residence at the University of Dayton.
6. The School of Business Administration will not accept any business or business-related courses more than ten years old.

7. A maximum of two semester hours of physical education activities courses (HPS 130) may be applied toward the minimum graduation requirement.
8. The candidate has the responsibility of meeting degree requirements in business administration. Therefore, the student should be thoroughly familiar with the course requirements and should keep a record of courses completed and semester hours applicable to degree requirements.

GRADING OPTION

All students in the School of Business Administration must register under Grade Option 1 for courses in any department of the School of Business Administration. Other courses that must be taken under Option 1 are MTH 128, 129; PHL 313; REL 368; and the Communication requirement. MIS majors must take required computer science courses under Option 1.

FIRST- AND SECOND-YEAR SBA PROGRAM

The program below is to be followed by students who will major in accounting, economics, finance, management, or marketing. Students planning to major in management information systems should follow the program outlined in the section on the Department of Management Information Systems and Decision Sciences (MIS) in this chapter.

The program below contains all of the requirements for the first and second years. There is flexibility in the sequencing of some courses—e.g., PHL 103 can be taken during either the first or the second semester; some courses listed in the first year can be taken during the second year or vice versa. Consult the academic advisor for sequencing options.

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
			1st Term	2nd Term
First Year				
BAI	101	Business Educational Planning ¹	1	
BAI	103L	Business Computing Laboratory ¹	1	
ENG	101-102	College Composition I and II ²	3	3
HST	101 or 102	History of Western Civilization		3
MTH	128	Finite Mathematics ³	3	
MTH	129	Calculus for Business		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
CMM	101	Fundamentals of Oral Communication ⁴	3	
—	—	General Education requirements ⁵	3	4
			17	16
Sophomore Year				
ACC	207-208	Principles of Accounting I and II	3	3
DSC	210-211	Statistics for Business I and II	3	3
ECO	203-204	Principles of Microeconomics and Macroeconomics	3	3
—	—	Social science elective ⁶	3	
—	—	Communication requirement ⁷		3
MGT	203	Legal Environment of Business	3	
—	—	General Education requirements ⁵		3
			15	15

¹Does not count toward minimum graduation requirement. A proficiency test for BAI 103L is available for those with adequate background.

²Students placed in ENG 114 or 198 take a nonbusiness elective the second term.

³MTH 102 is recommended for students with insufficient knowledge of secondary mathematics. MTH 102 does not count toward minimum graduation requirement.

⁴Students testing out of CMM 101 will substitute a nonbusiness elective.

⁵See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g. PHL 103); others are to be chosen from the listing of approved courses set forth in Chapter V.

⁶Choose any course from one of the following: anthropology, political science, psychology, sociology.

⁷Choose from ENG 370, ENG 372, ENG 378, CMM 309, CMM 310 or CMM 313.

UPPER-LEVEL PROGRAMS

Specialization in the School of Business Administration occurs in the junior and senior years. Majors are available in accounting, economics, finance, management, management information systems, and marketing. These programs are described later in this chapter.

Each major involves some number of general electives, as seen in the appropriate program descriptions. In choosing electives, students must bear in mind two considerations. One is that at least three semester hours of general electives must be taken outside the School of Business Administration. The other is that a minimum of 54 semester hours of *all* academic work must be at the 300-400 level.

Double majors and minors in business administration are available; requirements for minors are set forth under the descriptions for each academic unit later in this chapter. Minors in some nonbusiness programs are also available; consult the appropriate department for details.

MINOR IN INTERNATIONAL BUSINESS

The minor in international business is an interdisciplinary program in business administration which consists of 18 semester hours. Nine of these are chosen from business courses; the remaining nine from nonbusiness international-related courses, chosen in consultation with the student's academic advisor. It is recommended, but not required, that a portion of the nine semester hours of nonbusiness courses be upper-level language courses.

The requirement for business courses consists of three courses, one each from any three of the following functional areas. One of these courses may also count toward the student's major, with the approval of the department chairperson.

Accounting:

ACC 412 International Accounting

Economics:

ECO 450 Comparative Economic Systems

ECO 460 Economic Development and Growth

ECO 461 International Economics

Finance:

FIN 450 International Business Finance

Management:

MGT 430 Multinational Corporate Management

Marketing:

MKT 440 Multinational Marketing

MKT 445 Special Topics in International Marketing (for Study Abroad Program)

Business Administration Interdisciplinary:

BAI 301 Practicum in International Business

INTERNSHIP

Internship is work experience offered for academic credit in each of the departments in the School of Business Administration. The intent is to provide practical experience in implementing the theory and skills learned in the classroom, in work associated with the student's academic concentration. It is an option open to all undergraduate students pursuing four-year programs once they have fulfilled the following prerequisites:

1. Students must have completed a minimum of 45 semester hours.
2. A minimum of 2.0 cumulative grade average is required and must be maintained.
3. Approval from the department chairperson of the student's major is a prerequisite for participation in the program.

Positions offered to students may be either compensatory or noncompensatory. The intent of the internship is to be beneficial to both the students and the participating organizations. Students are encouraged to find positions themselves, and these are acceptable if the employers agree to the conditions for participating organizations.

Credits earned in internship may be applied as general electives or associated with the student's major, depending upon the requirements of the individual departments. The maximum number of semester hours that may be earned over the full four-year degree program is twelve. Individual department requirements differ and should be checked under the 497 course numbers in the pages which follow.

The internship program is offered in all terms with special policy and conditions governing the summer session. During the first and second terms internships are offered in the Dayton area, while during the summer session arrangements can be made for out-of-town participation. Interested students should see the internship coordinator for further information as soon as they are eligible for participation.

COOPERATIVE EDUCATION

The School of Business Administration participates in the University of Dayton Cooperative Education Program, which is an optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. For a fuller explanation of the program, refer to Chapter X.

ACC

ACCOUNTING (ACC)

The Department of Accounting offers a program that prepares students to begin professional careers in public accounting, private industry, government, and not-for-profit organizations. The accounting program emphasizes communication, intellectual and interpersonal skills, general education and business and accounting knowledge, with a professional, ethical orientation.

An accounting major must earn credit in at least seven upper-level accounting courses. Six specific courses are required: ACC 303, 305, 306, 341, 401, and 420. At least one additional accounting course is required. All upper-division accounting courses require a minimum grade of "C" in all prerequisite accounting courses. Students should consult with their academic advisor about selecting accounting and other elective courses appropriate to particular career goals. Students should also consult their advisor or the chairperson about opportunities for professional work-experience (e.g., co-op or internship), minors, international opportunities/study, etc.

The program below contains all of the junior and senior requirements for an accounting major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

PROGRAM B1: BACHELOR OF SCIENCE WITH A MAJOR IN ACCOUNTING (ACC)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
Junior Year				
ACC	303	Managerial Accounting	3	
ACC	305-306	Intermediate Financial Accounting I & II	4	3
ACC	341	Accounting Information Systems I		3
FIN	301	Business Finance		3
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems	3	
MKT	305	Principles of Marketing	3	
PHL	313	Business Ethics		3
	or			
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement ¹		3
			16	15
Senior Year				
ACC	401	Auditing Principles		4
ACC	420	Federal Income Taxation	4	
ACC	—	Accounting elective ²	3	
DSC	316	Production and Operations Management	3	
ECO	—	Economics elective ³	3	
MGT	490	Strategic Management and Policy		3
—	—	General Education requirement ¹		3
—	—	General electives ⁴	3	6
			16	16

¹See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

²Select in consultation with advisor.

³Choose any 300 or 400 level economics course.

⁴At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

For a minor in accounting, at least 19 semester hours are required:
 ACC 207-208, Introduction to Accounting (ACC 301 substitutes for ACC 207).
 ACC 305-306, Intermediate Financial Accounting
 Two additional accounting courses, chosen in consultation with the department chairperson.

FACULTY

Ronnie J. Burrows, *Chairperson, Department of Accounting*
 David Smith, *Ernest & Young Faculty Scholar of Accounting*
Professors: Roehm, Smith
Associate Professors: Brady, Burrows, Clark, Eley, Fioriti, Geary, Rosenzweig,
Vorherr
Assistant Professor: Hartwell
Lecturer: Hadley

COURSES OF INSTRUCTION

ACC 207. INTRODUCTION TO FINANCIAL ACCOUNTING: Introduction to financial accounting concepts, procedures, and terminology. The accounting framework for recording transactions and reporting to parties external to the organization. Prerequisites: Sophomore standing and BAI 103L or equivalent.

3 sem. hrs.

ACC 208. INTRODUCTION TO MANAGERIAL ACCOUNTING: Management use of accounting data in planning and controlling organization activities; theories and practices of cash flow reporting, cost accounting and analysis of data for management decision making. Prerequisite: ACC 207.

3 sem. hrs.

ACC 301. INTRODUCTION TO ACCOUNTING: Introduction to financial and managerial accounting concepts, terminology, purposes, and applications for the nonbusiness student. Not open to students in the School of Business Administration or to those with credit in ACC 207.

3 sem. hrs.

ACC 303. MANAGERIAL ACCOUNTING: The production, dissemination, and interpretation of financial information for use within an organization. Information for planning, decision making, and control. Study of typical cost accounting systems in various organizations. Prerequisites: ACC 207 and 208, junior standing.

3 sem. hrs.

ACC 305-306. INTERMEDIATE FINANCIAL ACCOUNTING I & II: Comprehensive treatment of financial accounting concepts, principles, and procedures used in the preparation and analysis of financial statements. Prerequisites: ACC 207 and 208, junior standing. ACC 305 is a prerequisite for ACC 306.

4 and 3 sem. hrs. respectively

ACC 341. ACCOUNTING INFORMATION SYSTEMS I: Study of designs of accounting systems, including their impact on management decision making and control. Emphasis on (1) a systems approach to the flow of data, (2) system internal control, and (3) computer applications in accounting. Prerequisites: ACC 207 and 208 and MIS 365 or permission of chairperson.

3 sem. hrs.

ACC 401. AUDITING PRINCIPLES: Study of the concepts, standards, techniques, and procedures used to evaluate and report on the fairness of the financial information generated by a business entity; introduction to internal, operational, and governmental auditing. Prerequisites: ACC 306 and 341. *4 sem. hrs.*

ACC 402. ACCOUNTING FOR NOT-FOR-PROFIT ORGANIZATIONS: Study of the principles, techniques, and procedures related to financial reporting of governmental units and other not-for-profit entities. Prerequisite: ACC 306. *3 sem. hrs.*

ACC 404. ADVANCED MANAGERIAL ACCOUNTING: Study of the more involved methods and concepts of managerial cost accounting. Includes advanced topics in cost determination and analysis, quantitative methods, behavioral aspects of management decision-making and control systems. Prerequisites: ACC 303 and 341. *3 sem. hrs.*

ACC 408. ADVANCED FINANCIAL ACCOUNTING: Study of the principles and procedures in accounting for specialized uses in business combinations, consolidations, government and other not-for-profit entities, multinational companies, and foreign currency transactions. Prerequisite: ACC 306. *3 sem. hrs.*

ACC 412. INTERNATIONAL ACCOUNTING: Introduction to the issues and problems of international business as they relate to accounting; how various countries perceive and deal with specific accounting problems. Prerequisite: ACC 208 or permission of chairperson. *3 sem. hrs.*

ACC 413. ADVANCED ACCOUNTING PROBLEMS: Comprehensive study and analysis of accounting principles and practices, using specific problems for development of approaches to problem solving. Prerequisite: Permission of chairperson. *3 sem. hrs.*

ACC 414. SEMINAR IN ACCOUNTING: Study of accounting theory, current accounting issues, and recent authoritative pronouncements. Prerequisite: 12 sem. hrs. of upper-level ACC courses or permission of instructor. *3 sem. hrs.*

ACC 420. FEDERAL INCOME TAXATION: The conceptual framework of taxation, with primary emphasis on discussion and evaluation of the taxation of individuals. Introduction to taxation of corporations and partnerships. Prerequisite: ACC 305 or permission of chairperson. *4 sem. hrs.*

ACC 421. ADVANCED TAXATION: Study of taxation of corporations, partnerships, and estates and trusts. Emphasis on the impact of taxation on business entities. Prerequisite: ACC 420. *3 sem. hrs.*

ACC 430. LAW FOR THE ACCOUNTING PROFESSION: Study of major laws affecting the public and private practice of accounting; contracts, property, commercial code, bankruptcy, business organizations, legal responsibility, and government regulations. Credit does **NOT** apply to requirements for ACC major. Prerequisites: MGT 203, permission of chairperson. *3 sem. hrs.*

ACC 441. ACCOUNTING INFORMATION SYSTEMS II: Examination of accounting systems with exposure to systems design and evaluation, complex spreadsheet applications, decision support systems, and data base management applications. Prerequisite: ACC 341 or permission of instructor. *3 sem. hrs.*

ACC 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of program director and chairperson. *3 sem. hrs. each*

ACC 497. LABORATORY WORK EXPERIENCE: Supervised accounting work experience in association with a participating public accounting, industrial, commercial, educational, health-care, or governmental organization. (See internship coordinator for details). Credit does NOT apply to requirements for ACC major. Permission of chairperson required. *3 sem. hrs.*

ACC 498. COOPERATIVE EDUCATION: Full-time accounting work term(s), alternating with study terms (for multi-term experience). (See Chapter X; consult Career Placement Center for details). Credit does NOT apply to requirements for ACC major. Permission of chairperson required. *3 sem. hrs.*

ACC 499. INDEPENDENT STUDY IN ACCOUNTING: Directed readings, independent study, and research projects in selected fields of accounting. Periodic conferences with instructor. Prerequisites: Senior status in accounting, permission of chairperson and instructor. *1-6 sem. hrs.*



DSC

DECISION SCIENCES (DSC)

The Department of Management Information Systems and Decision Sciences offers courses in several quantitative and systems areas, a major and a minor in management information systems (see MIS), and a minor in decision sciences.

Decision sciences is the study of analysis, quantitative methodologies and their application to the functional and behavioral problems of any organization. The major areas of study include applied statistics, operations research, and production and operations management. All business students take three decision sciences courses as part of their core business coursework: DSC 210, Statistics for Business I; DSC 211, Statistics for Business II; and DSC 316, Production and Operations Management.

The minor in decision sciences (DSC) offers business majors and other students an opportunity to develop their skills in the quantitative methods which support managerial decision making. The following courses are required for a minor in decision sciences:

DSC 210, Statistics for Business I

DSC 211, Statistics for Business II

MIS 303, Decision Support with PCs

DSC 312, Quantitative Business Analysis

DSC 316, Production and Operations Management

Six additional semester hours of 300-400-level DSC or MIS courses.

Business students may not use MIS 365 as credit towards the minor. Specific courses in other areas (e.g. mathematics) may be used. See chairperson for approval.

FACULTY

E. James Dunne, *Chairperson, Department of Management Information Systems and Decision Sciences*

Prabuddha De, *Standard Register-Sherman Distinguished Professor of MIS*

Professors: De, Dunne, Ferratt, Vlahos, Wells

Associate Professors: Agarwal, Amsden, Bohlen, Ghosh, Young

Assistant Professors: Casey, Popken (visiting), Prasad, Sinha

Lecturer: Davis

COURSES OF INSTRUCTION

DSC 210. STATISTICS FOR BUSINESS I: Basic concepts of statistics including descriptive statistics, probability, probability distributions, and estimation. Prerequisites: MTH 129, BAI 103L. 3 sem. hrs.

DSC 211. STATISTICS FOR BUSINESS II: Tests of hypotheses, analysis of variance, simple and multiple regression and correlation, and nonparametric methods. Prerequisite: DSC 210. 3 sem. hrs.

DSC 312. QUANTITATIVE BUSINESS ANALYSIS: Introduction to the principal mathematical models used to support managerial analysis and decision making. Topics include linear programming, simulation, decision theory, queueing theory, and decision support systems. Prerequisite: DSC 211 or equivalent. 3 sem. hrs.

DSC 313. ADVANCED BUSINESS STATISTICS: Selected topics from advanced statistics with emphasis on business applications. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 316. PRODUCTION AND OPERATIONS MANAGEMENT: Study of the management of processes that produce goods and services. Emphasis on the use of quantitative techniques in the analysis of production systems. Discussion of current trends such as just-in-time, total quality, and flexible manufacturing. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 410. DECISION THEORY: Introduction to the analysis of decisions under uncertainty. Topics include structuring of the decision process, Bayesian decision theory, and multicriteria decision making. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 415. SIMULATION MODELING AND ANALYSIS: Introduction to simulation models in support of business decision making. Emphasis on building and analyzing models in a variety of applications including manufacturing and service systems. Study and use of a simulation language. Prerequisites: BAI 103L, DSC 211. DSC 312 recommended. *3 sem. hrs.*

DSC 430. QUALITY AND JIT IN MANUFACTURING: The concepts of just-in-time manufacturing, total quality system, and statistical process control. Projects, tours, and guest speakers. Prerequisite: DSC 316. *3 sem. hrs.*

DSC 435. ANALYSIS OF FACTORY SYSTEMS: Concepts and techniques for the analysis, design, and management of factory production systems. Work-flow layout, scheduling techniques, stochastic process models, simulations, and computerized factory models. Prerequisites: DSC 312, 316. *3 sem. hrs.*

DSC 440. CONTINUOUS IMPROVEMENT: Theory and practice of continuous improvement especially as applied in manufacturing; comparison to the traditional operations management approach, tools and techniques, the KAIZEN approach. Prerequisite: DSC 316. *3 sem. hrs.*

DSC 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

DSC 494. SEMINAR IN DECISION SCIENCES: Study of selected topics or issues in applied statistics, quantitative business analysis, and production and operations management. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering. *3 sem. hrs.*

DSC 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization, practical experience in work associated with the student's minor concentration. (See internship coordinator for details.) Does not satisfy MIS elective. Permission of chairperson required. *1-6 sem. hrs.*

DSC 499. INDEPENDENT STUDY IN DECISION SCIENCES: Research in conjunction with a faculty member on a subject within the general area of decision sciences. Normally open only to juniors and seniors who have attained a cumulative grade-point average of 3.0 or above. Prerequisite: Permission of chairperson. *1-6 sem. hrs.*

ECO

ECONOMICS (ECO)

The major program in economics is designed for students seeking careers as economists in education, government, or business. The major is excellent preparation for graduate work in either economics or business administration and for law school. The student is equipped with the tools for the systematic analysis of the economics of the firm, the industry, the nation, and the world.

The major in economics consists of ECO 203-204, Principles of Micro- and Macroeconomics; ECO 346, Intermediate Microeconomic Analysis; ECO 347, Intermediate Macroeconomic Analysis; and 15 semester hours of economics electives. Students in the College of Arts and Sciences desiring to major in economics will follow the program for the Bachelor of Arts in Economics. (See ECO, Chapter VI.)

The program below contains all of the junior and senior requirements for an economics major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

PROGRAM B3-A: BACHELOR OF SCIENCE WITH A MAJOR IN ECONOMICS (ECO)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
			1st Term	2nd Term
Junior Year				
ECO	346	Intermediate Microeconomic Analysis	3	
ECO	347	Intermediate Macroeconomic Analysis		3
ECO	—	Economics elective		3
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems		3
MKT	305	Principles of Marketing		3
PHL	313	Business Ethics	3	
	or			
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement ¹	3	
—	—	General elective ²		3
			15	15
Senior Year				
DSC	316	Production and Operations Management	3	
ECO	—	Economics electives	6	6
MGT	490	Strategic Management and Policy		3
—	—	General Education requirement ¹	3	
—	—	General electives ²	3	6
			15	15

¹See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

²At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

For a minor in economics, 18 semester hours are required:

ECO 203-204, Principles of Micro- and Macroeconomics

ECO 346-347, Intermediate Micro- and Macroeconomics Analysis

Six additional semester hours in economics.

FACULTY

Ralph R. Frasca, *Chairperson, Department of Economics and Finance*

Hamid Beladi, *William J. Hoben Research Scholar in International Business*

Professors: Beladi, Chen, Rapp, Weiler, Winger

Associate Professors: Frasca, Gustafson, Hadley, Mohan

Assistant Professors: Pace, Sauer, Steiner, Whyte

COURSES OF INSTRUCTION

- * ECO 203. PRINCIPLES OF MICROECONOMICS: An introduction to consumer and producer behavior in a market economy, demand and supply, pricing and firm behavior under perfect and imperfect competition, and the distribution of income. Discussion of current topics in microeconomics may be included. 3 sem. hrs.
- * ECO 204. PRINCIPLES OF MACROECONOMICS: Introductory economic analysis of the macroeconomy; the determination of gross national product, employment, inflation and the interest rate in the U.S. economy. Government policy, money and banking, and international trade are analyzed. Prerequisite: ECO 203 recommended. 3 sem. hrs.
- ECO 346. INTERMEDIATE MICROECONOMIC ANALYSIS: Analysis of the theory of consumer behavior, production theory, equilibrium of the firm, price determination in various market structures, distribution of income, allocation of resources, welfare economics. Prerequisite: ECO 203. 3 sem. hrs.
- ECO 347. INTERMEDIATE MACROECONOMIC ANALYSIS: National income accounting and the determination of the level of income and employment; classical, Keynesian, and post-Keynesian models; private, government, and foreign sectors; theories of inflation and economic growth. Prerequisite: ECO 204. ECO 203 recommended. 3 sem. hrs.
- ECO 430. HISTORY OF ECONOMIC THOUGHT: Development of economic thinking from Biblical times to the present; overview of mercantilism, physiocracy, and classical, utilitarian, socialist, neoclassical, and Keynesian streams of thought. Prerequisites: ECO 203, 204. 3 sem. hrs.
- ECO 441. ECONOMETRICS: Training in the art of making economic measurements from empirical data, using regression analysis as the principal tool; use of a computer program for determining the parameters and statistical measures of the regression equation; interpretation of the results by statistical inference. Prerequisites: Differential calculus and basic statistics or permission of the instructor. 3 sem. hrs.
- ECO 442. MONEY AND BANKING: Principles of money and monetary systems; commercial banking and the role of the Federal Reserve System; monetary theory and policy; the mechanism of international payments. Prerequisites: ECO 203, 204. 3 sem. hrs.

ECO 445. PUBLIC FINANCE: The economic aspects of government finance at the local, state, and especially national level; the behavioral effects of various taxes, efficiency in spending, the changing role of the U.S. government, fiscal policy, and intergovernmental revenue and expenditure programs; emphasis on relating analytical tools to current developments. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 450. COMPARATIVE ECONOMIC SYSTEMS: Analysis of the principal tools of economic systems of the world, primarily capitalism, socialism, and communism. A comparative analysis of how each type of economic system allocates resources to achieve desired economic goals. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 460. ECONOMIC DEVELOPMENT AND GROWTH: Study of various dynamic economic theories of growth and structural change; the role of particular factors of production and related noneconomic variables in the development process, primarily, though not exclusively, of Third World nations. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 461. INTERNATIONAL ECONOMICS: Study of international trade and international monetary relations, theoretical and practical aspects of flows of commodities and production resources, protection, balance of payments, adjustment mechanism and policy, and international economic organizations. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 471. LABOR ECONOMICS: Theory of labor supply and demand, human capital theory, and the process by which wages are determined in various factor markets; applications to topics of unemployment, unions, migration, discrimination, and skill differentials. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 485. URBAN AND REGIONAL ECONOMICS: Treatment of certain theoretical concepts such as location theory and theories of land use and land rent; an economic interpretation for the existence of cities; applying economic analysis to the problems of traffic congestion, pollution, race, poverty, and urban sprawl. Prerequisite: ECO 203. ECO 346 recommended. *3 sem. hrs.*

ECO 490. ANTITRUST ECONOMICS: Study of how economic analysis has been applied in the interpretation of the antitrust statutes. Examines major anti-trust laws and relevant case law. Prerequisite: ECO 203. *3 sem. hrs.*

ECO 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

ECO 494. SEMINAR: Subject varies from time to time. May be taken more than once if topic changes. Prerequisites to be announced. *3 sem. hrs.*

ECO 496. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Does not count toward economics major. Permission of chairperson required. *3 sem. hrs.*

ECO 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Does not count toward economics major. Permission of chairperson required.

3 sem. hrs.

ECO 498. STUDIES IN ECONOMICS (HONORS): Directed readings and research in selected fields of economics. The number of sem. hrs. will depend on the amount of work chosen. The course will involve periodic discussions with faculty and other students in the course. May be taken more than once for additional credit. Prerequisite: 3.0 average in economics with a minimum of 9 sem. hrs. in economics; nomination by faculty and permission of chairperson required.

1-6 sem. hrs.

*General Education course. See Chapter V.



FIN

FINANCE (FIN)

The major program in finance is designed for students seeking careers in finance, banking, security analysis, or financial institutions. A major in finance is also excellent preparation for graduate study in finance, business administration, and law.

The student majoring in finance will complete FIN 301, Business Finance; FIN 360, Investments; FIN 371, Money and Capital Markets; and a minimum of 12 semester hours of finance electives, 9 of which must be at the 400 level. The student has several optional considerations, which include corporate finance, investment banking, and financial institutions.

The program below contains all of the junior and senior requirements for a finance major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

PROGRAM B3-B: BACHELOR OF SCIENCE WITH A MAJOR IN FINANCE (FIN)

Dept.	No.	Course	Semester Hours	
Junior Year				
			1st Term	2nd Term
ECO	—	Economics elective ¹	3	
FIN	301	Business Finance	3	
FIN	360	Investments		3
FIN	371	Money and Capital Markets		3
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems	3	
MKT	305	Principles of Marketing		3
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement ²		3
—	—	General elective ³	3	
			15	15
Senior Year				
DSC	316	Production and Operations Management	3	
FIN	—	Finance electives ⁴	6	6
MGT	490	Strategic Management and Policy		3
—	—	General Education requirement ²	3	
—	—	General electives ³	3	6
			15	15

¹Choose any 300 or 400 level economics course.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

³At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

⁴The 12 sem. hrs. of finance electives must include at least 9 sem. hrs. at the 400 level.

For a minor in finance, 15 semester hours are required:

FIN 301, Business Finance

FIN 360, Investments

FIN 371, Money and Capital Markets

Six additional semester hours in finance, which must include at least three semester hours at the 400 level.

FACULTY

Ralph R. Frasca, *Chairperson, Department of Economics and Finance*

Hamid Beladi, *William J. Hoben Research Scholar in International Business*

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Associate Professors: Frasca, Gustafson, Hadley, Mohan

Assistant Professors: Pace, Sauer, Steiner, Whyte

COURSES OF INSTRUCTION

FIN 300. PERSONAL FINANCE: Principles and techniques for handling personal financial decisions: personal budgeting, obtaining credit, life and casualty insurance, buying a home, buying an automobile, and savings and investments. For both business and nonbusiness majors. 3 sem. hrs.

FIN 301. BUSINESS FINANCE: Principles and techniques used by business firms in managing and financing their current and fixed assets; sources of funds within the capital markets; determinants of the financial structure; analytical techniques. Prerequisites: ECO 203, ACC 207 or 301. 3 sem. hrs.

FIN 330. INSURANCE AND RISK MANAGEMENT: Study of the basic concepts of business and personal risks from the standpoint of creation, identification, reduction, elimination, and evaluation of risks; the use of insurance in meeting problems of risk. 3 sem. hrs.

FIN 336. PRINCIPLES OF REAL ESTATE: Survey of real estate industry with emphasis on its structure, regulation, growth, needs, financing, and future. Analysis of the methods of determining land use and evaluation of the theories of city development. 3 sem. hrs.

FIN 360. INVESTMENTS: The principles and techniques used by the investor in selecting securities, emphasis on the stock and bond markets; security valuation methods leading to the selection of individual issues; portfolio theory. Prerequisite: FIN 301. 3 sem. hrs.

FIN 371. MONEY AND CAPITAL MARKETS: Study of financial markets and instruments, including credit allocation by financial markets, interest rate theories, money and capital markets securities, futures markets, and international financial markets. Prerequisite: FIN 301. 3 sem. hrs.

FIN 450. INTERNATIONAL BUSINESS FINANCE: Introduction to problems facing financial management of international companies, including foreign exchange risk, working capital and capital budgeting decisions for multinational corporations, international financing, accounting and control. Prerequisite: FIN 301. 3 sem. hrs.

FIN 460. PORTFOLIO MANAGEMENT AND SECURITY ANALYSIS: Advanced valuation theory and security analysis; portfolio construction, evaluation, and management. Prerequisites: FIN 301, 360. *3 sem. hrs.*

FIN 471. MANAGEMENT OF FINANCIAL INSTITUTIONS: Integrated and comprehensive analysis of financial institutions that include depository institutions, finance companies, contractual intermediaries, securities firms, and investment companies. Prerequisites: FIN 301, 371. *3 sem. hrs.*

FIN 480. SPECULATIVE MARKETS: Study of options and futures markets fundamentals, trading strategies, hedging and speculation, pricing theories, and market regulations. Prerequisites: FIN 301, 360. *3 sem. hrs.*

FIN 490. ADVANCED FINANCIAL ANALYSIS: Advanced study of current developments in financial planning, acquisition of funds, asset management valuation; policy strategy and techniques in financial decision making. Prerequisite: FIN 301. *3 sem. hrs.*

FIN 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

FIN 494. SEMINAR: Subject varies from time to time. May be taken more than once if topic changes. Prerequisites: To be announced. *3 sem. hrs.*

FIN 496. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Does not count toward finance major. Permission of chairperson required. *3 sem. hrs.*

FIN 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Does not count toward finance major. Permission of chairperson required. *3 sem. hrs.*

FIN 498. STUDIES IN FINANCE (HONORS): Directed readings and research in selected fields of finance. The number of semester hours will depend on the amount of work chosen. The course will involve periodic discussions with other students and faculty in the program. May be taken more than once for additional credit. Prerequisite: 3.0 average in finance with a minimum of 9 sem. hrs. in finance; nomination by faculty and permission of chairperson required. *1-6 sem. hrs.*

INTERDISCIPLINARY STUDIES (BAI)

BAI 101. BUSINESS EDUCATIONAL PLANNING: Introduction to the School of Business Administration and the University. Development of approaches to all inclusive educational planning. Does not count toward minimum graduation requirement. *1 sem. hr.*

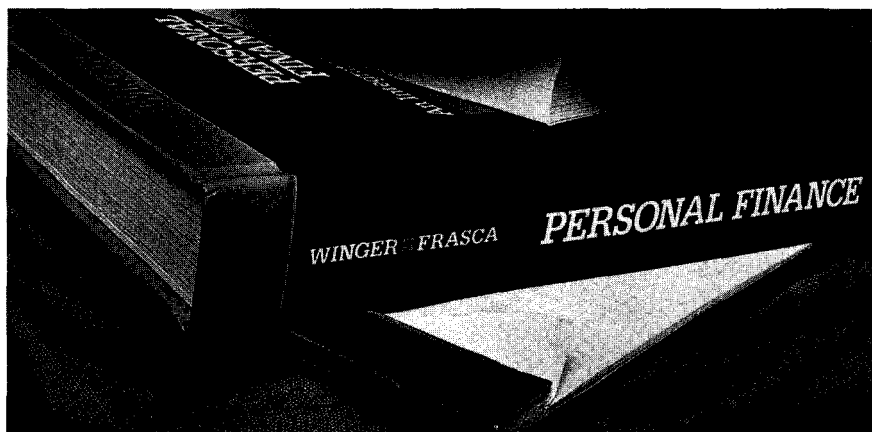
BAI 103L. BUSINESS COMPUTING LABORATORY: Basic computer literacy—hardware, software, databases, networks; introduction to business computer laboratories; use of word-processing, spreadsheet and other business software. Does not count toward minimum graduation requirement. *1 sem. hr.*

BAI 199. BUSINESS SCHOLARS FORUM I: Exploration and discussion of a wide range of business topics. Weekly sessions led by faculty members and guest professionals in their areas of expertise. Open only to first-year Business Scholars. *1 sem. hr.*

BAI 201. BUSINESS SCHOLARS FORUM II: Similar to BAI 199 with topics geared to sophomore Business Scholars. Open only to sophomore Business Scholars. *1 sem. hr.*

BAI 301. PRACTICUM IN INTERNATIONAL BUSINESS: Study and analysis of international business concepts: objectives and ethics; planning; decision-making; business skills and entrepreneurial aptitudes. Comparative analysis of various cultures and their impact on international business operation. *3 sem. hrs.*

BAI 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Does not count toward major. Permission of dean required. *3-6 sem. hrs.*



MGT

MANAGEMENT (MGT)

Management is defined as the planning, organizing, directing, and controlling of an enterprise's operations so that objectives can be achieved economically and effectively. It is the art and science of achieving goals through people and other resources. The actual functions performed by the manager may include anything from operations, sales, and personnel management, to transportation of goods or analysis of a computer system. The management program equips students to seek careers in military, religious, educational, business, or governmental organizations. In addition, through the proper selection of electives, students may obtain some specialization in personnel and industrial relations, strategic management, or entrepreneurship and small business.

The major in management consists of MGT 311, Organization Behavior and Management; MGT 312, Organization Theory and Design; and 15 semester hours of management electives. With the help of an advisor, a student can choose management elective courses to obtain a specialization in one of the following:

- Management and Supervision
- Personnel and Human Resources
- Entrepreneurship and Small Business
- Business Strategy and Policy

Alternatively, the student may choose electives in such a way as to have a broad-based exposure to management concepts.

The program below contains all of the junior and senior requirements for a management major. There is flexibility in the sequencing of some courses. Consult academic advisor for sequencing options.

PROGRAM B2: BACHELOR OF SCIENCE WITH A MAJOR IN MANAGEMENT (MGT)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
		Junior Year	1st Term	2nd Term
DSC	316	Production and Operations Management		3
ECO	—	Economics elective ¹	3	
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management	3	
MGT	312	Organization Theory and Design		3
MGT	—	Management elective		3
MIS	365	Management Information Systems		3
MKT	305	Principles of Marketing	3	
—	—	General Education requirement ²		3
—	—	General elective ³	3	
			15	15

		Senior Year	
MGT	490	Strategic Management and Policy	3
MGT	—	Management electives	6
PHL	313	Business Ethics	3
	or		
REL	368	Christian Ethics and the Business World	
—	—	General Education requirement ²	3
—	—	General electives ³	6
		15	15

¹Choose any 300 or 400 level economics course.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

³At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

The following courses are required for a minor in management:

MGT 311, Organization Behavior and Management

MGT 312, Organization Theory and Design

Nine additional semester hours of 300-400-level management courses other than MGT 490. Students enrolled in the School of Business Administration may not use core courses for the nine-semester-hour requirement.

FACULTY

William S. Sekely, *Chairperson*

Professor Emeritus: Darr

Professors: Gomolka, Gould

Associate Professors: Lee, R. Miller, Schenk, Tewari

Assistant Professors: Berger, Bickford, Dehler, Stilwell, V. Miller

COURSES OF INSTRUCTION

MGT 203. LEGAL ENVIRONMENT OF BUSINESS: Introduction to the legal system and judicial process as they affect the business community. Development of legal reasoning in substantive law of contracts, torts, and agency. 3 sem. hrs.

MGT 308. ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT: Basic management and business functions of small firms which are independently owned and operated and not dominant in their fields of operation. 3 sem. hrs.

MGT 311. ORGANIZATION BEHAVIOR AND MANAGEMENT: Introduction to the study of organizational behavior, which concerns the behavior of people as they interact within organizations to achieve both personal and organizational goals. Prerequisite: Junior standing. 3 sem. hrs.

MGT 312. ORGANIZATION THEORY AND DESIGN: A survey course focusing on organization-level analysis, context and structure. Topics include environments, effectiveness, power, technology, culture and information processing. Prerequisite: Junior standing. *3 sem. hrs.*

MGT 314. PERSONNEL AND HUMAN RESOURCE MANAGEMENT: Study of the basic personnel management functions—employment, wage and salary administration, training and development, labor relations, health and safety, and organizational and personnel planning—and their related policies. Prerequisite: MGT 311. *3 sem. hrs.*

MGT 405. NEGOTIATION FOR MANAGEMENT: Consideration and analysis of conflict resolution and negotiation as applied to the practice of management. Prerequisite: MGT 311. *3 sem. hrs.*

MGT 410. PROJECT MANAGEMENT: Focuses on the managerial activities (planning, implementing and controlling) associated with the project organizational design. Prerequisite: MGT 311; DSC 316 recommended. *3 sem. hrs.*

MGT 417. INDUSTRIAL RELATIONS: Interrelationships and interaction of the employer and the employee in the public and private sectors in conflict and accommodation. The structure and nature of management-union relationships and agencies created by these relationships. Prerequisite: MGT 311. *3 sem. hrs.*

MGT 419. COLLECTIVE BARGAINING, MEDIATION, AND ARBITRATION: Meaning, practices, principles, and organization of collective bargaining; techniques of mediation and agencies for effective mediation; major economic problems involved in the adjustment of labor disputes. Prerequisite: MGT 311. *3 sem. hrs.*

MGT 430. MULTINATIONAL CORPORATE MANAGEMENT: Introduction to multinational corporation strategies, policies, and various types of environments. Prerequisite: Senior standing. *3 sem. hrs.*

MGT 440. WOMEN IN MANAGEMENT: Study of the problems women encounter in the predominantly male business world. Discussion includes why some bright women fail, why some do not try to compete, problems of the two-career family, sex stereotyping, and harassment. Prerequisite: Junior standing. *3 sem. hrs.*

MGT 445. TOPICS IN HUMAN RESOURCE MANAGEMENT: Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: MGT 314. *3 sem. hrs.*

MGT 450. MANAGEMENT SEMINAR: A course in research on a subject within the student's major. Open only to those who have attained a cumulative grade point average of 3.0 or above in their sophomore and junior years. Prerequisites: Senior standing; permission of chairperson. *3 sem. hrs.*

MGT 455. LEADERSHIP IN ORGANIZATIONS: A study of the theoretical issues, applicational concerns and practical skills associated with managerial leadership. Prerequisite: MGT 311. *3 sem. hrs.*

MGT 460. SMALL BUSINESS CONSULTING: Application of business knowledge in resolving small business management problems. Emphasis on providing assistance and counseling to small business by giving the student an opportunity to aid in solving problems. Various techniques and methods of management consulting. Prerequisites: Senior standing; permission of chairperson. *3 sem. hrs.*

- MGT 471. MANAGEMENT AND SOCIETY: A business firm's relation with society. Technological change, racism, poverty, affirmative action, urban problems, and environmental concerns. Prerequisite: Junior standing. *3 sem. hrs.*
- MGT 476. SUPERVISORY MANAGEMENT: The basics of supervisory skills as applied to first-line and middle-level management positions. Prerequisite: MGT 311. *3 sem. hrs.*
- MGT 478. MANAGING TECHNOLOGY AND INNOVATION: Analysis of issues related to managing in a changing technological environment, including innovation and the management of professionals. Prerequisite: MGT 311. *3 sem. hrs.*
- MGT 479. MANAGING SERVICE ORGANIZATIONS: Introduction to service industries and the problems service managers face on a day-to-day basis. Prerequisite: MGT 311. *3 sem. hrs.*
- MGT 480. SPECIAL TOPICS IN ORGANIZATION THEORY: A course uniquely designed for advanced, in-depth study of selected topics/issues in organization and management theory. Prerequisite: Senior standing. *3 sem. hrs.*
- MGT 483. CURRENT ISSUES IN MANAGEMENT: Selected topics that consider and analyze current problems and emerging issues in the field of management and the manager's role in addressing them. Prerequisite: MGT 311. *3 sem. hrs.*
- MGT 489. TOPICS IN STRATEGIC MANAGEMENT: Analysis and interpretation of the strategic functions within organizations. Readings, cases, research. Prerequisites: MGT 311, senior standing. *3 sem. hrs.*
- MGT 490. STRATEGIC MANAGEMENT AND POLICY: The concept of organizational strategy and policy; the tasks and process of strategy formulation and implementation. Case method and/or computer simulation. Prerequisites: DSC 316, FIN 301, MGT 311, MIS 365, MKT 305; senior standing. *3 sem. hrs.*
- MGT 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*
- MGT 495. INDEPENDENT STUDY: Supervised study involving directed readings, individual research (library, field, or experimental), or projects in specialized areas of management. May be taken only once. Prerequisites: Major in MGT; senior standing; permission of chairperson. *3 sem. hrs.*
- MGT 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Permission of chairperson required. *1-3 sem. hrs.*
- MGT 498. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Permission of chairperson required. *3 sem. hrs.*

MIS

MANAGEMENT INFORMATION SYSTEMS (MIS)

The Department of Management Information Systems and Decision Sciences offers courses in several quantitative and systems areas, a major and a minor in management information systems and a minor in decision sciences. (See DSC.)

The major in management information systems enables the student to design, implement, and maintain effective information systems in organizations. The curriculum integrates the technical knowledge of computer hardware and software and the business and organizational knowledge of the business curriculum. Significant emphasis is placed on developing the students' writing and speaking skills in presenting the results of their work.

The curriculum prepares the graduate to assume any of a variety of positions in organizations dealing with the design, development, and maintenance of information systems as well as the education and training of users of information systems.

The curriculum consists of four major groups of courses:

1. *General Education* provides the student with a well rounded liberal education and includes such courses as history, philosophy, art, science, and English.
2. *Business* provides the student with the business and organizational concepts and skills to perform effectively in organizations.
3. *Computer Science* provides the student with the technical knowledge necessary to design effective information systems. Specifically, a three-course sequence in systems analysis, database, and data communication is required: CPS 310, 435, and 437. The prerequisites for this sequence develop programming proficiency: CPS 150, 151, and 242.
4. *Management Information Systems* provides knowledge and skills for building systems supporting the information and decision needs in any organization. Specifically, the major consists of MIS 375L, MIS Software Laboratory; DSC 312, Quantitative Business Analysis; MIS 375, Organizations, Decisions, and Information Systems; MIS 465 and 475, Analysis and Design Project I and II; and two upper-level elective courses.

The program below contains all of the requirements for the major in management information systems. There is flexibility in the sequencing of some courses—e.g., PHL 103 can be taken during either the first or the second semester; some courses listed in the first year can just as well be taken during the second year, and vice-versa; and some upper-level courses can also be taken during various terms of the junior and senior years. Consult the academic advisor for sequencing options.

PROGRAM B5: BACHELOR OF SCIENCE WITH A MAJOR IN MANAGEMENT INFORMATION SYSTEMS (MIS)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
BAI	101	Business Educational Planning ¹	1	
BAI	103L	Business Computing Laboratory ¹	1	
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization		3
MTH	128	Finite Mathematics ²	3	
MTH	129	Calculus for Business		3
PHL	103	Introduction to Philosophy	3	

REL	103	Introduction to Religion	3	
CMM	101	Fundamentals of Oral Communication		3
—	—	Social Science elective ³	3	
—	—	General Education requirements ⁴		4
			17	16
Sophomore Year				
ACC	207-208	Principles of Accounting I and II	3	3
CPS	150-151	Algorithms and Programming I and II	4	4
DSC	210-211	Statistics for Business I and II	3	3
ECO	203-204	Principles of Microeconomics and Macroeconomics	3	3
—	—	Communication requirement ⁵		3
MGT	203	Legal Environment of Business	3	
			16	16
Junior Year				
CPS	242	Introduction to File Processing	3	
CPS	310	Systems Analysis		3
DSC	312	Quantitative Business Analysis		3
DSC	316	Production and Operations Management	3	
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management		3
MIS	375L	MIS Software Laboratory	1	
MIS	375	Organizations, Decisions, and Information Systems	3	
MKT	305	Principles of Marketing		3
—	—	General Education requirements ⁴	3	6
			16	18
Senior Year				
CPS	435	Management of Databases	3	
CPS	437	Survey in Data Communications		3
ECO	—	Economics elective ⁶	3	
MGT	490	Strategic Management and Policy		3
MIS	465, 475	Analysis and Design Project I,II	3	3
PHL	313	Business Ethics	3	
	or			
REL	368	Christian Ethics and the Business World		
—	—	Management information systems electives ⁷	3	3
—	—	General Education requirement ⁴		3
			15	15

¹Does not count toward minimum graduation requirement. Credit by examination for BAI 103L is available for those with adequate background.

²MTH 102 is recommended for students with insufficient knowledge of secondary mathematics. MTH 102 does not count toward minimum graduation requirement. MTH 168 is recommended in lieu of both MTH 128 and 129 for students with high mathematics test scores.

³Choose any course from one of the following: anthropology, political science, psychology, sociology.

⁴See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses set forth in Chapter V.

⁵Choose from ENG 370, ENG 372, ENG 378, CMM 309, CMM 310 or CMM 313.

⁶Choose any 300 or 400 level economics course.

⁷Choose any MIS, DSC or CPS 300-400 level courses in consultation with advisor. Courses in other areas may satisfy the MIS elective, e.g., ACC 341, MKT 430 and MGT 312. See chairperson for approval.

A minor in management information systems is available for students who wish to build on basic proficiency with computer technology, which they already possess or are willing to acquire.

Basic proficiency: structured programming, COBOL programming, and database technology. See chairperson for approval of this required proficiency.

Required courses:

- BAI 103L, Business Computing Laboratory,
 MIS 375L, MIS Software Laboratory,
 DSC 210-211, Statistics for Business I and II,
 MIS 375, Organizations, Decisions, and Information Systems, and either
 (1) three MIS electives or
 (2) CPS 310, Systems Analysis, and MIS 465 and 475, Analysis and Design Project I and II.

FACULTY

E. James Dunne, *Chairperson, Department of Management Information Systems and Decision Sciences*

Prabuddha De, *Standard Register-Sherman Distinguished Professor of MIS*

Professors: De, Dunne, Ferratt, Vlahos, Wells

Associate Professors: Agarwal, Amsden, Bohlen, Ghosh, Young

Assistant Professors: Casey, Popken (visiting), Prasad, Sinha

Lecturer: Davis

COURSES OF INSTRUCTION

MIS 303. DECISION SUPPORT WITH PCs: PC-based information and decision support systems emphasizing database management and spreadsheet applications. Database concepts, design techniques, and spreadsheet modeling; experience with several software packages. For non-MIS majors. Prerequisite: BAI 103L.

3 sem. hrs.

MIS 365. MANAGEMENT INFORMATION SYSTEMS: Survey of the theory and applications of computer-based information systems in organizations. The role of information in organizational processes, current information technology, decision support systems, and end-user computing and distributed processing systems. Prerequisites: BAI 103L and junior standing.

3 sem. hrs.

MIS 375. ORGANIZATIONS, DECISIONS, AND INFORMATION SYSTEMS: First course in a three-course sequence integrating the technical and organizational aspects of information systems. Organizations as systems, managerial decision-making processes, and the role of information technology and systems supporting management and operations. Prerequisites: BAI 103L and junior standing.

3 sem. hrs.

MIS 375L. MIS SOFTWARE LABORATORY: Provides thorough working knowledge of small computers and business software. Operating systems, spreadsheets, database management systems, and other advanced business software. Prerequisite: BAI 103L.

1 sem. hr.

MIS 410. ADVANCED BUSINESS SOFTWARE SYSTEMS: Introduction to the theory and applications of advanced business software such as fourth-generation languages, artificial intelligence, and advanced software engineering tools. Prerequisite: MIS 375L or permission of instructor. *3 sem. hrs.*

MIS 420. EXPERT AND KNOWLEDGE-BASED SYSTEMS: Introduction to artificial intelligence and expert and knowledge-based systems; knowledge acquisition, implementation, and validation; advanced topics; applications to business. Use of expert system software. Prerequisite: BAI 103L or equivalent. DSC 312 recommended. *3 sem. hrs.*

MIS 425. INFORMATION FOR TOTAL QUALITY: Theory and practice of total quality management (TQM); applications of TQM in the information systems function, information system requirements for TQM programs. Prerequisite: DSC 316. *3 sem. hrs.*

MIS 465. ANALYSIS AND DESIGN PROJECT I: First of a two-course capstone sequence. Study of the development of management information systems using traditional and/or prototyping methodologies including automated software engineering tools. Major student project on an existing organization's information system. Special emphasis on written and oral communication skills, project management, and teamwork. Fall term only. Prerequisites: MIS 375, CPS 310. *3 sem. hrs.*

MIS 475. ANALYSIS AND DESIGN PROJECT II: Continuation of MIS 465. Spring term only. Prerequisite: MIS 465. *3 sem. hrs.*

MIS 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

MIS 494. SEMINAR IN MANAGEMENT INFORMATION SYSTEMS: Study of selected technical and/or organizational issues in information systems. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering. *3 sem. hrs.*

MIS 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major concentration. (See internship coordinator for details.) Does not satisfy MIS elective. Permission of chairperson. *1-6 sem. hrs.*

MIS 498. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Does not satisfy MIS elective. Permission of chairperson required. *1-6 sem. hrs.*

MIS 499. INDEPENDENT STUDY: Research in conjunction with a faculty member on a subject within the general area of management information systems. Open only to juniors or seniors who have attained a cumulative grade point average of 3.0 or above. Permission of chairperson required. *1-6 sem. hrs.*

MARKETING (MKT)

The marketing management concept requires a systematic approach to the discovery and satisfaction of consumer wants as a basis for successful administration. It has been broadened in recent years to include the development of organizational members to their fullest potential and the achievement of social purposes.

Although the student often enters with an interest in a single phase of marketing, the emphasis in the curriculum is on the marketing concept as stated above. Thus, any specialized activity is studied as a part of the total marketing process which in turn must be integrated with the objectives of a business firm, the functioning of an economic system, and the constraints of society.

The goal is to build specialization on a base made up of the general education required for all students and a core of courses required of students in the School of Business Administration.

Within the marketing specialization the purpose is as follows:

1. To develop a student of marketing who has the tools and the groundwork for continued study after graduation. Applications of the social sciences and quantitative techniques are stressed. Communication skills are emphasized. Understanding of institutions and nomenclature is essential.
2. To develop a practitioner of marketing with interests, attitudes, and sufficient understanding to be potentially productive at a responsible level of decision making with both domestic and international perspectives.
3. To provide marketing majors flexibility in course selection and to provide some breadth of choice among marketing courses as electives for nonmarketing majors both within and outside the School of Business Administration.

The Department of Marketing is represented through institutional or faculty memberships in the Academy of International Business, the Academy of Marketing Science, the American Academy of Advertising, the American Collegiate Retailing Association, the American Marketing Association, the Association of Consumer Research, the Audit Bureau of Circulation, the Direct Mail Marketing Association, Health Care Marketing, the Institute of Decision Sciences, Sales and Marketing Executives International, and the Southern, Midwest, and Southwest Marketing Associations.

The breadth and selection of courses available provide for either a broad coverage of marketing or specialization in the form of one or more options. Thus the student, with the help of an advisor, can choose any of the marketing courses in fulfilling the 18 semester hours of marketing requirements and electives. The following are among the specializations:

- Marketing Management
- Advertising
- Retailing
- Salesmanship

A major in marketing requires MKT 405, Consumer Behavior; MKT 430, Marketing Research; and four additional marketing elective courses. The courses may be used to complete one or more of the optional concentrations listed above, or they may be selected to fulfill the program developed for the particular student.

The program below contains all of the junior and senior requirements for a marketing major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

**PROGRAM B4: BACHELOR OF SCIENCE WITH A MAJOR IN
MARKETING (MKT)**

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
Junior Year				
DSC	316	Production and Operations Management		3
ECO	—	Economics elective ¹		3
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems	3	
MKT	305	Principles of Marketing	3	
MKT	405	Consumer Behavior		3
MKT	—	Marketing elective ²		3
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	General elective ³	3	
			15	15
Senior Year				
MGT	490	Strategic Management and Policy		3
MKT	430	Marketing Research	3	
MKT	—	Marketing electives ²	3	6
—	—	General Education requirements ⁴	6	
—	—	General electives ³	3	6
			15	15

¹Choose one of the following: ECO 346, 347, 441, 442, 445, 461, 471, 485.

²Marketing courses selected in consultation with program advisor.

³At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

⁴See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

A minor in marketing requires MKT 305, Principles of Marketing, and 12 semester hours of additional courses in a pattern chosen in consultation with the chairperson of the Department of Marketing.

FACULTY

William S. Sekely, *Chairperson*

Distinguished Service Professor: Murphy

Professor Emeritus: Comer

Associate Professors: Emmelhainz, Gaidis, Lewis, Merenski, Oumlil, Sekely, Yates

Assistant Professors: Blakney, DeConinck

Adjunct: Metzger

COURSES OF INSTRUCTION

MKT 305. PRINCIPLES OF MARKETING: The general principles and practices underlying the processes of marketing. Analysis of the environmental conditions of manufacturers, wholesalers, retailers, and other marketing agencies. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 310. PRINCIPLES OF SELLING: The nature of selling, explored through the practical application of buying motives and selling techniques. Projects and role-playing to experience the preparation, closing, and post-purchase phases of selling. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 315. RETAIL MERCHANDISING: Survey of the development of retailing and the impact of consumer behavior, fashion, computers, and other innovations. Structural organization, location, and layout. Merchandising operations including planning of sales, purchases, stock control, markup, and expense control. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 318. RETAIL ADVERTISING AND SALES PROMOTION: Principles and practices of promotion in retail stores with emphasis on advertising, display, and sales promotion. Developing creative efforts, budgeting, and coordination of where, when, what, and how to promote. Prerequisites: MKT 305, 315. *3 sem. hrs.*

MKT 341. BUSINESS-TO-BUSINESS MARKETING: Concepts and analytical procedures associated with marketing to business. Business consumer and competitor analysis, marketing information systems, marketing research, and demand forecasting. Strategy development in product, promotion, distribution, and pricing with focus on manufacturers of business products. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 405. CONSUMER BEHAVIOR: Comprehensive study of buyer decision making which offers insight into the buyer-seller relationship. Application of theories from psychology and social psychology to investigate the behavior of industrial and consumer buyers. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 406. MARKETING CHANNELS: Study of the place element of the marketing mix. A focus on the relationships between manufacturers, wholesalers, and retailers. Channel structure and design including franchising. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 408. MARKETING LOGISTICS: Study of the physical distribution element of the marketing mix. Customer service, service quality, transportation, inventory, warehousing, and information systems used by manufacturers and retailers. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 411. SALES MANAGEMENT: The structure of the sales organization; determination of sales policies; selection, training, and motivation of salespersons; establishing sales territories and quotas. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 417. RETAIL BUYING AND MERCHANDISING: Determining what and how much to buy, market research, and model stocks, as well as the mathematic principles involved in purchase planning, planning initial markup, terms and dating, stockturn, inventory methods. Prerequisites: MKT 305, 315. *3 sem. hrs.*

MKT 420. MARKETING COMMUNICATIONS: Comprehensive study of the marketing communications of an organization, regarding product, price, promotion, and distribution. Marketing communication viewed as a continuous process with emphasis on its behavioral aspects. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 421. ADVERTISING: Nature and scope of advertising, social and economic aspects, role of research, creative strategy, media planning and selection, coordination with other marketing efforts. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 428. PROMOTION MANAGEMENT: Integration course to familiarize marketing students interested in promotion and marketing communication with tools necessary for the development, implementation, and management of promotional programs. Focus on management and coordination of advertising, personal selling, publicity and public relations, sales promotion, and collateral materials. Prerequisite: MKT 421. *3 sem. hrs.*

MKT 430. MARKETING RESEARCH: Study of marketing information systems, research technology, value of information, research design and execution, questionnaire design, measurement and scaling, multivariable data analysis, metric and non-metric techniques, data interpretation, computer applications, and writing and interpreting research reports. Prerequisites: MKT 305, DSC 210-211. *3 sem. hrs.*

MKT 435. PRODUCT DEVELOPMENT, MANAGEMENT, AND PRICING: Investigation and analysis of the new product development process, the management of a product through its life cycle, and the importance of the price variable in the product management process. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 440. MULTINATIONAL MARKETING: Emphasis on understanding global marketing environments, developing skills of global market analysis, designing and developing appropriate marketing strategies for global markets, decision making in global marketing. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 445. SPECIAL TOPICS IN INTERNATIONAL MARKETING: Study abroad program. Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 451. MARKETING POLICIES AND STRATEGIES: Integration course in marketing with emphasis on managerial decision making. Quantitative analysis for decision making regarding products, distribution systems, promotion strategies, and pricing decisions. Prerequisites: 12 sem. hrs. of marketing including MKT 305. *3 sem. hrs.*

MKT 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

MKT 494. SPECIAL TOPICS IN MARKETING: Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: Varies with topic. *3 sem. hrs.*

MKT 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Permission of chairperson required. *1-3 sem. hrs.*

MKT 498. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Permission of chairperson required. *3 sem. hrs.*

MKT 499. PROBLEMS IN MARKETING: Study of one or more specific aspects of the marketing process with emphasis on individual reading and research. Subject matter to be determined by the instructor on the basis of interest and need of the student. Enrollment limited. Permission of chairperson required. *3 sem. hrs.*

TEACHER CERTIFICATION

SCHOOL OF BUSINESS ADMINISTRATION BACCALAUREATE PROGRAM
WITH TEACHER CERTIFICATION (E11B)

Students matriculating in the School of Business Administration may enroll in the teacher education program (Secondary Education Program) of the School of Education without transferring to the School of Education. For requirements in professional education courses and in teaching fields consult the chairperson of the Department of Teacher Education.

Enrollment in the E11B program is subject to the admission requirements, counseling, maintenance of a unified system of records, screening, and other provisions standard for regular students of the School of Education working toward the Bachelor of Science in Education. These include maintaining at least a 2.5 average in the principal teaching field and in professional education courses and taking the comprehensive National Teacher Examinations (NTE). Upon acceptance into the program each student is assigned an education advisor for counseling on certification requirements.

In order to finish in four years, students in the School of Business Administration will need to process their applications for admission to the teacher education program no later than the third semester of matriculation, at which time the professional education sequence should begin. Failure to enroll on time could necessitate going beyond the normal four years to qualify for teacher certification and graduation. The requirements for the School of Business Administration as well as the requirements designated by the School of Education and the State of Ohio for secondary school certification must be completed before any degree is granted. Students must complete 300 hours of field and/or clinical experience before student teaching.

Students who have completed the proper course requirements may register for student teaching in the eighth semester (provided their applications for student teaching are duly processed at the beginning of the semester directly prior to student teaching and they have passed the normal screening procedure).

Students who have completed the requirements for teacher certification should make application for the standard four-year Provisional Ohio Teaching Certificate through the Office of the Dean, School of Education. See also EDT, Chapter VIII.

PROGRAM E11B: SECONDARY SCHOOL TEACHING CERTIFICATION

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
BAI	101	Business Educational Planning ¹	1	
BAI	103L	Business Computing Laboratory ¹	1	
EDT	110	The Profession of Teaching ²		3
ENG	101-102	College Composition I and II ³	3	3
HST	101 or 102	History of Western Civilization	3	
MTH	128	Finite Mathematics ⁴	3	
MTH	129	Calculus for Business		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion	3	
CMM	101	Fundamentals of Oral Communication ⁵		3
—	—	General Education requirements ⁶		4
			17	16

Sophomore Year				
ACC	207-208	Principles of Accounting I & II	3	3
DSC	210-211	Statistical Analysis for Business I and II	3	3
ECO	203-204	Principles of Microeconomics and Macroeconomics	3	3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning ²		3
MGT	203	Legal Environment of Business	3	
—	—	General Education requirements ⁶	3	6
			18	18
Junior Year				
ECO	—	Economics elective ⁷		3
EDT	318	Human Relations in Education ⁸	2	
EDT	351	School, Self and Society ²	3	
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management		3
MIS	365	Management Information Systems		3
MKT	305	Principles of Marketing	3	
PHL	313	Business Ethics		3
REL	or 368	Christian Ethics and the Business World		
—	—	Required major field courses ⁹	6	6
			17	18
Senior Year				
DSC	316	Production and Operations Management	3	
EDT	404	Business Education in Secondary School	4	
EDT	419	Philosophy of Education		3
EDT	420	Student Teaching; Secondary		10
EDT	469	Reading in the Content Areas	2	
MGT	490	Strategic Management and Policy	3	
—	—	Required major field courses ⁹	6	
			18	13

¹Does not count toward minimum graduation requirement. A proficiency test for BAI 103L is available for those with adequate background.

²Field experience; register for EDT 100.

³Students placed in ENG 114 or 198 take a nonbusiness elective the second term.

⁴MTH 102 is recommended for students with insufficient knowledge of secondary mathematics. MTH 102, however, does not count toward graduation requirement.

⁵Students testing out of CMM 101 will substitute a nonbusiness elective.

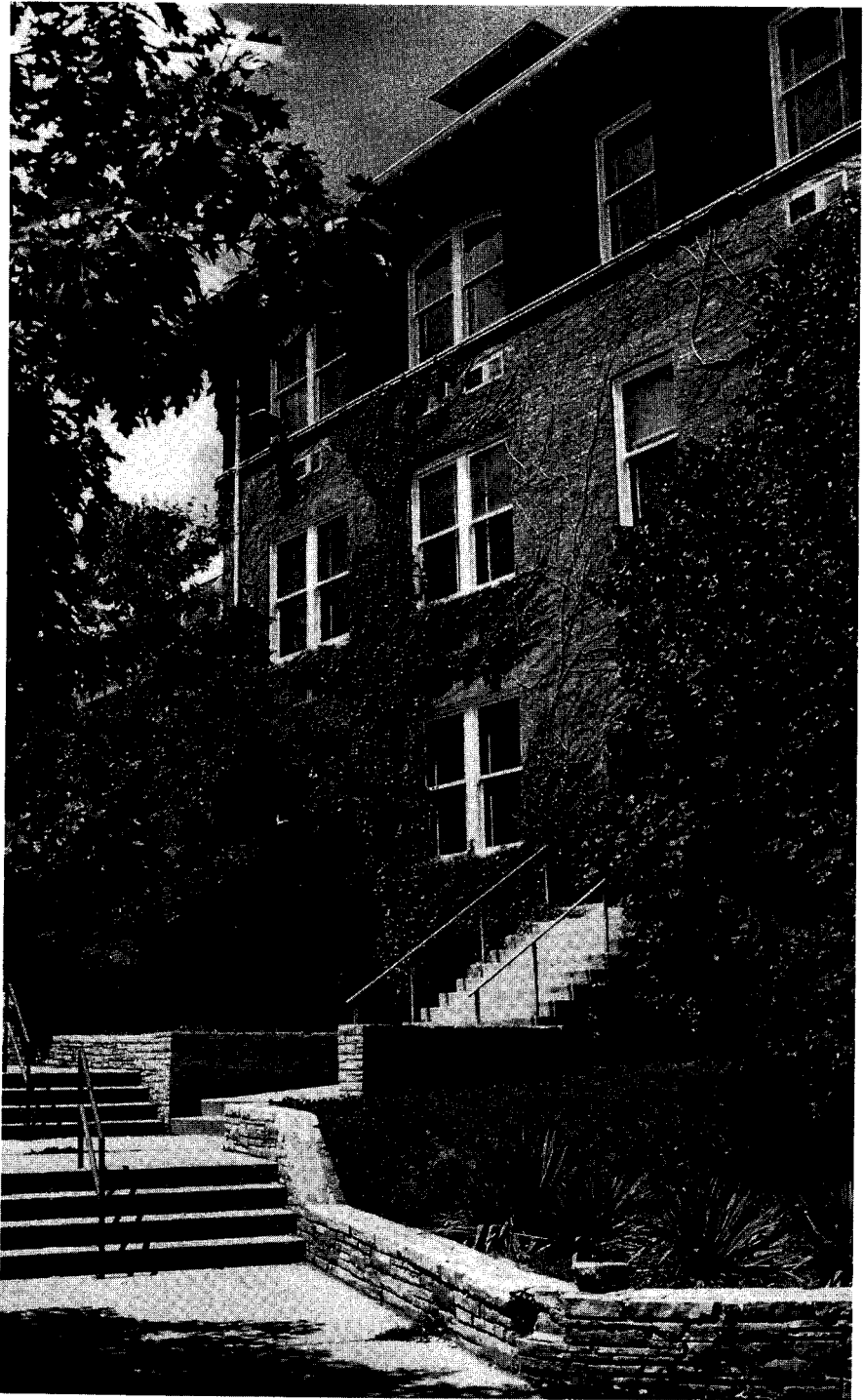
⁶See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses set forth in Chapter V.

⁷Choose any 300 or 400 level economics course.

⁸Not required for students with management major, who take MGT 387.

⁹For students majoring in economics, finance, management, or marketing. Students majoring in accounting must complete a total of 24 sem. hrs. of required major field courses. The E11B program is not available to those majoring in management information systems.

The sample program above prepares the student for certification in bookkeeping and basic business. Additional certification is available with the inclusion of a few other courses. Consult checksheets and academic advisor. Students are encouraged to take 6 semester hours of typing to qualify for an endorsement in typewriting-keyboarding; this facilitates student teaching placement and obtaining a teaching position. Courses must be taken off campus and a transcript provided.



VIII School of Education

Ellis A. Joseph, Dean

Joseph Rogus, Associate Dean

Donald Frericks, Assistant Dean

In conformity with the University's purposes, the School of Education endeavors to foster both the development of those general capacities of the students which flow directly from their human nature and the development of those particular capacities which enable them to become effective practitioners in the field of professional education.

The general capacities of the students are developed through a broad and sound general education. It acquaints them with the major areas of knowledge and provides planned opportunities for personal, social, and ethical development.

The particular concern of the School is the professional preparation of teachers for the elementary and secondary schools. Provisions for professional competence are made through (1) comprehensive study of specialized teaching fields, (2) thorough study of the professional foundations common to all teaching, (3) specialized study of the principles underlying a particular type and level of teaching, and (4) appropriate field-based experiences.

Students in the School of Education should appraise their commitment to teaching according to their development in specific knowledge, skills, attitudes, and values:

Knowledge: Students will demonstrate their knowledge of the teaching and learning process; of human nature and of human development, particularly in educational settings; of the means and ends of education; of the subjects they wish to teach; and of the special needs of the handicapped and students of minority groups.

Skills: Students will be able to assess pupil needs, interests, and level of understanding; to formulate learning objectives; to select appropriate learning content, materials, and activities; to facilitate learning activities and provide effective learning environments; to evaluate pupil progress and provide for self-evaluation by pupils; to assess their own teaching competencies and the effect these have on pupil learning; to foster tolerance and fairness in human relations; and to apply theory to practice in planned and supervised field experiences. Demonstrated competencies are essential in meeting the special needs of handicapped and minority-group pupils.

Attitudes: Students will seek self-development; accept others; trust, be open to and help others; and be enthusiastic for inquiry, experimentation, and discovery.

Values: Students will be committed to education for the betterment of others and society; to the Judeo-Christian principles that refer to a shared common humanity, the dignity of the person, the use of reason, and cooperation in seeking the common good and social justice; to the democratic principles; to a humanistic approach to learning; and to the Marianist tradition in education.

DEGREE REQUIREMENTS

In this chapter are described specific four-year course requirements for certification in kindergarten-primary, elementary, and secondary teaching, education of the handicapped, and special (art, foreign language, physical education, health education) teaching. All of these programs lead to the same degree—Bachelor of Science in Education (B.S. in Ed.). Several endorsements and validations may also be obtained.

The departments have an extensive screening process for students in the first two years of the program. At the end of their sophomore year, all students are required to apply for formal admission to the certification program. At this point their work is reviewed by a faculty committee to determine the extent to which their personal traits, academic work, etc. point toward the likelihood of their success as professional teachers.

The responsibility for meeting the University and state requirements rests with the student. The student is cautioned to study the course requirements and to keep accurate count of the semester hours applicable to graduation. Students planning to teach in states other than Ohio should fulfill University requirements as well as those of the state in which they desire to teach.

Requirements for graduation and teacher certification are the following:

1. Evidence of such general scholarship and personal and moral qualities as give promise of professional success. All students enrolled in programs leading to State of Ohio certification must verify that they are of "good moral character." Pursuant to School of Education policy, these students must complete the appropriate forms provided by the Office of the Dean. All students will be notified regarding this necessary procedure.
2. Evidence of participation in a variety of planned clinical and field experiences essential to the development of the resourcefulness needed by teachers.
3. Successful completion of a minimum of 124 semester hours in approved courses; some programs may require more than 124 semester hours.
4. An overall cumulative point average of at least 2.5 (C) and a cumulative point average of at least 2.5 for the professional education courses and for each teaching field in which certification is sought. Courses in professional education and in the teaching fields must be taken under grading option 1.
5. Successful completion of the following professional education sequence:

	<i>Semester Hours</i>
A. Personal and Professional Development of the Teacher	3
B. Child and Adolescent in Education	3
C. Teaching and Learning	3
D. Teaching in the Elementary School <i>or</i> School, Self, and Society	3
E. Special Methods ¹	varies
F. Philosophy of Education	3
G. Student Teaching	12

¹Each program has one or more methods courses; see specific programs.

With the possible exception of A, B, and C, all courses in the above sequence must be taken at the University of Dayton. Transfer credits from other institutions normally are not accepted in substitution for courses D through F, and never accepted for student teaching.

6. Completion of University requirements in General Education and basic skills. Students should see Chapter V and consult with their advisors.
7. A passing score on the Preprofessional Skills Test (PPST), which must be taken no later than the second term of the first year.
8. A passing score on an exit examination mandated by the State Board of Education. Students should consult the Education Office (C-104) for dates on which the examination will be administered.

ADVISING AND SCHEDULING

All first-year education students are assigned faculty advisors from the departments in which they are enrolled. Scheduling for classes is completed through the departmental offices.

UNIVERSITY POLICIES

Students are reminded to refer to pertinent sections of this Bulletin and the *Student Handbook* for all policies to which they are subject.

STUDENT TEACHING

Student teaching, which consists of actual classroom teaching under competent supervision, involves full-day sessions for approximately one semester. During the semester of student teaching, the student is not ordinarily permitted to carry more than three semester hours of additional course work. These additional semester hours are scheduled outside the normal school day in order to keep the student-teaching experience intact for the full school day. Students should make financial arrangements such that they need not continue with part-time employment during this semester. The faculty of the School of Education screen each candidate who applies for student teaching on the basis of the following factors: (1) skill in oral and written communication, (2) an overall quality-point average in course work of at least 2.5, (3) physical and emotional fitness, (4) desirable personal and moral traits, (5) completion of the prerequisite courses and field and clinical experiences.

Prerequisites for candidacy for student teaching are (1) official enrollment in a teacher education program at the University, (2) prospective completion of the minimum residence requirement of thirty semester hours inclusive of student teaching, (3) formal application for processing by the screening committee to whom application must be submitted a term in advance of student teaching. (Application blanks may be secured from the department offices, C-207 and TF-40.) The campus supervisors have direct charge of the student teaching experience.

Once a week throughout the term a student teaching seminar is held on campus. Once students have been approved and placed for student teaching, they may not withdraw from the program except with the approval of the department chairperson. A student who withdraws without this approval forfeits future placement in student teaching.

TEACHER PLACEMENT

Students who qualify for teacher certification through the School of Education are aided in securing teaching positions by the School's placement service in Chaminade Hall, Room C-226. Placement requires cooperation from the candidate

in filling out the necessary papers and in submitting recommendations. Dates for interviews with prospective employers arranged by the Office of Educational Placement Services are announced in advance.

TEACHER CERTIFICATION

The School of Education programs are approved by the State Department of Education and accredited by the National Council for Accreditation of Teacher Education. Ordinarily, Ohio certificates are recognized by other states. Students are encouraged to check certification requirements for states in which they are seeking positions.

In addition to preparing properly certified elementary and secondary teachers, the School also enables students to qualify for kindergarten-primary certification and for special certification in art, foreign language, physical education, health education, music, and the teaching of the handicapped in three fields: specific learning disabled, developmentally handicapped, and multihandicapped. Endorsements and validations are available for adapted physical education, driver education, pre-kindergarten, reading, and typing/keyboarding.

ATHLETIC TRAINING CERTIFICATION

The Department of Health, Physical Education and Sport Science offers the State Curriculum which enables a student to meet the State of Ohio Licensure and National Athletic Training Association (NATA) certification requirements upon completion. The University of Dayton Certificate curriculum is open to any student in the School of Education. This program consists of 45 semester hours of classroom work and 1500 supervised internship clock hours. Students complete 1000 clock hours in a traditional athletic setting and the remaining 500 clock hours in an allied clinical setting. This program is designed to give the student a variety of clinical experiences with team physicians, physical therapists, hospitals, and high school athletic programs. Upon completion of the State Certification curriculum, a student must pass the State of Ohio examination and N.A.T.A. certification examination in order to practice in the State of Ohio. See HPS.

INTERSCHOLASTIC COACHING CERTIFICATION

The Certification of Interscholastic Coaches program may be pursued by any student in the School of Education.

BACCALAUREATE PROGRAMS

The School of Education offers and administers nine basic programs leading to the baccalaureate degree. (Six of these are outlined and their requirements and options discussed in detail later in this chapter under code designations of course subject matter—for example, EDT signifies Teacher Education.) These are as follows:

- PROGRAM E1: ELEMENTARY EDUCATION, grades 1-8
- PROGRAM E2: SECONDARY EDUCATION, grades 7-12
- PROGRAM E3: PHYSICAL EDUCATION K-12
- E3A: PHYSICAL EDUCATION 7-12
- See HPS.

School of Education

- PROGRAM E4: HEALTH EDUCATION
E4A: HEALTH INFORMATION SPECIALIST
E4B: SCHOOL NURSE-HEALTH EDUCATOR
- PROGRAM E6: SPECIAL, grades K-12
E6A: Visual Art (EAR)
See EDT. See also VAR, Chapter VI.
E6B: Foreign Language (ELA)
- PROGRAM E7: KINDERGARTEN-PRIMARY, grades K-3
(This program is available separately and in combination with Program E1, Elementary Education. Combined programs may require more than four years to complete.)
- PROGRAM E8: EXERCISE SCIENCE AND FITNESS MANAGEMENT
See HPS.
- PROGRAM E9: SPORTS MANAGEMENT
See HPS.
- PROGRAM E10: EDUCATION OF THE HANDICAPPED, grades K-12
(This program is available separately and in combination with Program E1, Elementary Education. Combined programs will require more than four years to complete.)
E10A: Specific Learning Disabled
E10B: Developmentally Handicapped
E10C: Multihandicapped
- PROGRAM E11A: TEACHER CERTIFICATION for students in the College of Arts and Sciences
E11B: TEACHER CERTIFICATION for students in the School of Business Administration
See EDT. See also EDT, Chapters VI and VII.

NOTE: All certification programs and teaching fields described in this chapter are subject to approval by the Ohio Department of Education under the certification standards effective July 1, 1987.

GRADUATE PROGRAMS

For in-service teachers, the School of Education offers six graduate programs leading to the Master of Science in Education; these are designed to prepare master secondary teachers, master elementary teachers, school counselors, school psychologists, school social workers, social agency counselors, college student personnel professionals and school administrators. The degrees Educational Specialist and Doctor of Philosophy in Educational Leadership are also offered. For nonprofessional degree holders who are interested in becoming certified teachers, the Department of Teacher Education offers graduate programs leading to various certifications. For in-service teachers who wish to retrain for certification in other areas, the Department of Teacher Education offers a variety of programs. (For details on the graduate programs request a copy of the Graduate Issue of the University of Dayton Bulletin.)

HPS

HEALTH, PHYSICAL EDUCATION AND SPORT SCIENCE (HPS)

The mission of the Department of Health, Physical Education and Sport Science is to prepare qualified students to be proficient and professional in a vocation encompassing the health, recreational, and physical fitness needs of both youths and adults. The department prepares health and physical education teachers, school nurse educators, coaches, athletic trainers, and driver education teachers to meet the needs of the public and private schools. It also prepares exercise science and fitness management specialists for careers in corporate, industrial, hospital, and university wellness programs. A health specialist program is offered for students interested in working with health agencies. An interdisciplinary sport management program prepares students for professional opportunities in private sports clubs, health clubs, sports organizations and federations, and various other aspects of sports and recreation. This program is available in Option I, with a general business core, and Option II, with a business marketing core. Under either option the student also chooses a specified minor in broadcasting, coaching, journalism, recreation or fitness management.

PROGRAM E3: PHYSICAL EDUCATION (EDP) K-12

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
			<i>1st Term</i>	<i>2nd Term</i>
First Year				
HPS	109-110	Personal and Professional Development	2	2
HPS	117	Personal and Community Health	3	
HPS	130	Physical Education Activities	3	3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	
MTH	102	Fundamentals of Mathematics		3
CMM	101	Fundamentals of Oral Communication		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
			17	17
Sophomore Year				
HPS	305	Human Anatomy and Laboratory		3
HPS	130	Physical Education Activities		2
HPS	200	Motor Learning	2	
HPS	220	Adapted Physical Education ²	3	
HPS	223	Basic Movement Education	3	
HPS	275	History of Physical Education and Sports		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning ^{2,3}		3
—	—	General Education requirements ¹		6
HPS	225	Computer Applications in Physical Education	3	
			16	17
Junior Year				
HPS	222	Audio-visual Materials and Equipment	1	
HPS	306	Human Physiology	3	
HPS	336	Standard First Aid and Personal Safety		2
HPS	337	Cardiopulmonary Resuscitation		1
HPS	130	Physical Education Activities	2	2
HPS	300	Methods of Teaching Physical Education	3	
HPS	324	Elementary Physical Education		3
HPS	408	Physiology of Exercise		3

HPS	—	Physical education electives	3	3
EDT	351	School, Self, and Society ^{2,3}	3	
EDT	469	Reading in the Content Area	1	
HPS	470	Curriculum Development in Physical Education		3
			16	17
Senior Year				
HPS	405	Tests and Measurements	3	
HPS	409-409L	Kinesiology and Laboratory	3	
HPS	417	Student Teaching ⁴		12
HPS	448	Safety and the Law in Physical Education and Sports	2	
EDT	419	Philosophy of Education		3
HPS	—	Electives	6	
—	—	General Education requirement ¹	3	
			17	15

¹See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

²Students should leave one half day open for field experience.

³Field experiences are arranged by the University. Register for EDT 100.

⁴Students will have seminar on campus once a week.

PROGRAM E3A: PHYSICAL EDUCATION (EDP) 7-12

<i>Dept. No.</i>	<i>Course</i>	<i>Semester Hours</i>		
		<i>1st Term</i>	<i>2nd Term</i>	
First Year				
HPS	109-110	Personal and Professional Development	2	2
HPS	117	Personal and Community Health	3	
HPS	130	Physical Education Activities	3	3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	
MTH	102	Fundamentals of Mathematics		3
CMM	101	Fundamentals of Oral Communication		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
			17	17
Sophomore Year				
HPS	305	Human Anatomy and Laboratory		3
HPS	130	Physical Education Activities	3	2
HPS	200	Motor Learning	2	
HPS	220	Adapted Physical Education ²	3	
HPS	275	History of Physical Education and Sports		3
HPS	—	Physical Education Electives	3	3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning ^{2,3}		3
—	—	General Education requirement ¹		3
HPS	225	Computer Applications in Physical Education	3	
			17	17
Junior Year				
HPS	222	Audio-visual Materials and Equipment	1	
HPS	306	Human Physiology	3	
HPS	336	Standard First Aid and Personal Safety		2
HPS	337	Cardiopulmonary Resuscitation		1

HPS	130	Physical Education Activities	1	2
HPS	300	Methods of Teaching Physical Education		3
HPS	408	Physiology of Exercise		3
EDT	351	School, Self, and Society ^{2,3}	3	
EDT	469	Reading in the Content Area	1	
—	—	General Education requirement ¹	3	
—	—	Electives	5	3
HPS	470	Curriculum Development in Physical Education		3
			17	17
Senior Year				
HPS	405	Tests and Measurements	3	
HPS	409-409L	Kinesiology and Laboratory	3	
HPS	418	Student Teaching ⁴		12
HPS	448	Safety and the Law in Physical Education and Sports	2	
EDT	419	Philosophy of Education		3
—	—	General Education requirement ¹	3	
HPS	—	Electives	6	
			17	15

¹See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

²Students should leave one half day open for field experience.

³Field experiences are arranged by the University. Register for EDT 100.

⁴Students will have seminar on campus once a week.

PROGRAM E8: EXERCISE SCIENCE AND FITNESS MANAGEMENT (EES)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
CHM	123-124	General Chemistry and Laboratory	4	4
HPS	117	Personal and Community Health	3	
HPS	112	Introduction to Exercise Science	2	
HPS	130	Aerobics		1
HPS	182-183	Conditioning I and II	1	1
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
PHL	103	Introduction to Philosophy		3
REL	103	Introduction to Religion	3	
HPS	130	Physical Education Activity		1
			16	16
Sophomore Year				
ECO	203	Principles of Microeconomics		3
HPS	225	Computer Application in Physical Education		3
HPS	305	Human Anatomy and Laboratory	3	
HPS	306	Human Physiology		3
HPS	336	Standard First Aid and Personal Safety	2	
HPS	337	Cardiopulmonary Resuscitation	1	
HPS	200	Motor Learning	2	
HPS	275	History of Physical Education and Sports		3
MTH	207	Introduction to Statistics	3	
CCM	101	Fundamentals of Oral Communication	3	
—	—	General Education requirement ¹		3

HPS	335	Massage Therapy		1
HPS	184	Conditioning III	1	
HPS	209	Teaching Aerobics	2	
			<u>17</u>	<u>16</u>
Junior Year				
ACC	301	Financial Accounting	3	
HPS	361	Health Consumership	2	
HPS	220	Adaptive Physical Education ²	3	
HPS	300	Methods of Teaching Physical Education		3
HPS	408-408L	Physiology of Exercise and Laboratory		3
MGT	203	Legal Environment of Business		3
PSY	101	Introductory Psychology	3	
PSY	251	Human Growth and Development		3
—	—	General Education requirements ¹	6	3
			<u>17</u>	<u>15</u>
Senior Year				
HPS	360	Addiction Education		2
HPS	373	Stress Management		2
HPS	405	Tests and Measurements in Physical Education	3	
HPS	409-409L	Kinesiology and Laboratory	3	
HPS	431	Nutrition for Exercise and Sport		2
HPS	435	Exercise ECG		3
HPS	448	Safety and the Law in Physical Education and Sports	2	
HPS	490-491	Exercise Science Internships ³	2	6
ENG	370	Report Writing	3	
PHL	315	Medical Ethics	3	
			<u>16</u>	<u>15</u>

¹See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

²Field experience required.

³Consult program director.

PROGRAM E9: SPORT MANAGEMENT (ESM) OPTION I

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HPS	111	Introduction to Sport Management	2	
HPS	130	Physical Education Activities	2	1
ENG	101-102	English Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
MTH	102	Fundamentals of Mathematics	3	
CMM	101	Fundamentals of Oral Communication	3	
—	—	Course in minor		3
HPS	225	Computer Applications in Physical Education		3
PHL	103	Introduction to Philosophy		3
REL	103	Introduction to Religion	3	
			<u>16</u>	<u>16</u>
Sophomore Year				
HPS	306	Human Physiology or	3	
HPS	305	Human Anatomy	3	

HPS	275	History of Physical Education and Sports	3	
HPS	—	Physical Education Activities	1	
MGT	203	Legal Environment of Business	3	
MIS	365	Management Information Systems		3
MTH	207	Introduction to Statistics		3
—	—	Courses in minor	3	5
—	—	General Education requirements ¹	3	6
			16	17
Junior Year				
ACC	207	Financial Accounting		3
MKT	421	Advertising	3	
ECO	203	Principles of Microeconomics	3	
HPS	350	Principles of Sport Marketing	3	
HPS	352	Event Management		2
HPS	355	Sport Management Practicum		3
ENG	370	Report Writing		3
ENG	380	Sports in Literature		3
—	—	Courses in minor	5	3
—	—	Elective	3	
			17	17
Senior Year				
ACC	208	Accounting for Management	3	
HPS	351	Facility Management	3	
HPS	448	Safety and the Law in Physical Education and Sports	2	
HPS	485	Sport Management Internship ²		12
FIN	301	Business Finance	3	
MGT	314	Personnel Management	3	
—	—	Electives	3	3
			17	15

¹See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

²Consult program director.

PROGRAM E9: SPORT MANAGEMENT (ESM) OPTION II

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HPS	111	Introduction to Sport Management	2	
HPS	130	Physical Education Activities	2	1
HPS	225	Computer Applications in Physical Education		3
ENG	101-102	English Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
MTH	102	Fundamentals of Mathematics	3	
CMM	101	Fundamentals of Oral Communication	3	
—	—	Course in minor		3
PHL	103	Introduction to Philosophy		3
REL	103	Introduction to Religion	3	
			16	16
Sophomore Year				
ECO	203	Principles of Microeconomics	3	
HPS	306	Human Physiology	3	
		or		

HPS	305	Human Anatomy	3	
HPS	130	Physical Education Activities	1	
HPS	275	History of Physical Education and Sports	3	
MIS	365	Management Information Systems		3
MTH	207	Introduction to Statistics		3
—	—	Courses in minor	3	5
—	—	General Education requirements ¹	3	6
			16	17
Junior Year				
ACC	301	Financial Accounting		3
MKT	421	Advertising	3	
HPS	350	Principles of Sport Marketing		3
HPS	352	Event Management		2
HPS	—	General elective	3	
ENG	370	Report Writing		3
ENG	380	Sports in Literature	3	
MKT	310	Principles of Selling	3	
MKT	315	Retail Merchandising		3
—	—	Courses in minor	3	3
			15	17
Senior Year				
HPS	351	Facility Management	3	
HPS	448	Safety and the Law in Physical Education and Sports	2	
EDP	485	Sport Management Internship ²		12
MKT	405	Consumer Behavior	3	
HPS	—	Course in minor	3	
—	—	Electives	6	
			17	12

¹See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

²Consult program director.

PROGRAM E4: HEALTH EDUCATION (EDH) K-12

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HPS	110	The Profession of Teaching	3	
HPS	117	Personal and Community Health	3	
HPS	361	Health Consumerism		2
HPS	130	Physical Education Activities	1	1
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization		3
MTH	102	Fundamentals of Mathematics		3
CMM	101	Fundamentals of Oral Communication	3	
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
			16	15
Sophomore Year				
HPS	222	Audio-visual Materials and Equipment	1	
HPS	251	School Health Services & Environment	3	
HPS	305	Human Anatomy and Laboratory	3	
HPS	306	Human Physiology		3

HPS	363	Emotional Health		2
HPS	364	Sexuality Education		2
HPS	—	Health electives		2
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
EDT	469	Reading in the Content Area	1	
—	—	General Education requirements ¹	6	3
			<u>17</u>	<u>15</u>

Junior Year

HPS	309	School Health Instruction		3
HPS	336	Standard First Aid and Personal Safety	2	
HPS	337	Cardiopulmonary Resuscitation		1
HPS	360	Addiction Education	2	
HPS	362	Environmental Health Education	2	
HPS	412	Community Health Resources		3
HPS	—	Health electives	5	3
EDT	351	School, Self, and Society	3	
—	—	General education requirements ¹	3	3
—	—	Second Teaching Field or electives		4
			<u>17</u>	<u>17</u>

Senior Year

HPS	407	Current Issues in Health Education	2	
HPS	419	Student Teaching ⁴		12
HPS	428	Health Research and Evaluation		3
HPS	430	Principles and Administration of Health Programs	3	
HPS	—	Health electives	2	
EDT	419	Philosophy of Education	3	
EDT	451	Computers in Education	3	
—	—	Second Teaching Field or electives	4	
			<u>17</u>	<u>15</u>

¹See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., HPS 305); others are to be chosen from the listing of approved courses. Consult advisor.

²Field experiences are arranged by the University. Register for EDT 100 section.

³Students should leave one half day open for field experience.

⁴Students will have seminar on campus once a week.

PROGRAM E4A: HEALTH INFORMATION SPECIALIST (EHS)

Dept.	No.	Course	Semesterr Hours	
			1st Term	2nd Term
		First Year		
ENG	101-102	College Composition I & II	3	3
REL	103	Introduction to Religion	3	
PHL	103	Introduction to Philosophy		3
HST	101-102	History of Western Civilization	3	3
CMM	101	Fundamentals of Oral Communication		3
MTH	102	Fundamentals of Mathematics	3	
HPS	117	Personal and Community Health	3	
HPS	130	Physical Education Activities	1	1
HPS	336	Standard First Aid and Personal Safety		2
HPS	337	Cardiopulmonary Resuscitation		1
			<u>16</u>	<u>16</u>

		Sophomore Year	
REL/PHL		General Education requirements ¹	3
HPS	222	Audio-visual Materials and Equipment	1
HPS	251	School Health Services and Environment	3
HPS	305	Human Anatomy	3
HPS	306	Human Physiology	3
HPS	—	Health elective	4
MKT	305	Principles of Marketing	3
ENG	378	Professional and Technical Writing	3
EDT	451	Computers in Education	3
			17
			16
		Junior Year	
HPS	309	Methods of Teaching Health	3
HPS	367	Community Health Programs	3
HPS	407	Seminar in Current Health Issues	2
HPS	412	Community Health Resources	3
HPS	415	Health Agency Internships	2
HPS	—	Health electives	2
ACC	301	Financial Accounting	3
—	—	General Education requirement ¹	6
SOC	—	Sociology elective	3
—	—	Admin/Promotion elective	3
			16
			16
		Senior Year	
HPS	415	Health Agency Internships	2
HPS	428	Research and Evaluation "Health"	3
HPS	430	Principles of Health Education	3
—	—	Admin/Promotion elective	3
—	—	EHS electives or Second Teaching Field	8
			16
			16

¹See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., HPS 305); others are to be chosen from the listing of approved courses. Consult advisor.

PROGRAM E4B: SCHOOL NURSE-HEALTH EDUCATOR

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HPS	360	Addiction Education		2
HPS	130	Physical Education Activities		2
ENG	101-102	College Composition I and II	3	3
PSY	101	Introductory Psychology	3	
CMM	101	Fundamentals of Oral Communication	3	
—	—	General Education requirements ¹	3	3
—	—	Electives	2	4
PHL	103	Introduction to Philosophy		3
REL	103	Introduction to Religion	3	
			17	17
Sophomore Year				
HPS	222	Audio-visual Materials and Equipment	1	
HPS	251	School Health Services & Environment	3	

HPS	361	Health Consumerism	2	
HPS	363	Emotional Health	2	
HPS	364	Sexuality Education	2	
HPS	—	Electives		5
EDT	200	History of Education Since 1789	3	
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
EDT	469	Reading in the Content Area	1	
MTH	102	Fundamentals of Mathematics		3
PHL	315	Medical Ethics		3
—	—	General education requirement ¹		3
			<hr/>	<hr/>
			17	17

Junior Year

HPS	309	School Health Instruction		3
HPS	407	Current Issues in Health Education	2	
HPS	412	Community Health Resources		3
HPS	430	Prin/Admin.-Health Programs		3
HPS	453	Child Abuse/Educator's Role	2	
HPS	—	Elective	2	
EDT	318	Human Relations in Education	3	
EDT	351	School, Self, and Society	3	
EDT	390	Introduction to Exceptionalities	3	
EDT	451	Computers in Education		3
PSY	431	Interviewing and Counseling		3
—	—	Elective		2
			<hr/>	<hr/>
			15	17

Senior Year

HPS	515	School Law	2	
HPS	419	Student Teaching	12	
HPS	437	School Nurse Practicum		12
HPS	428	Research and Evaluation in Health		3
HPS	—	Elective		2
EDT	419	Philosophy of Education	3	
			<hr/>	<hr/>
			17	17

¹See General Education Requirements, Chapter V. Some General Education courses are specified in the program others are to be chosen from the listing of approved courses. Consult advisor.

ADAPTIVE PHYSICAL EDUCATION SPECIALIST CERTIFICATION

The adaptive physical education validation is designed for students who have completed a special (K-12) or high school (7-12) standard program for physical education. With the knowledges, skills, attitudes and values from the standard program and the twenty hours in the specialist program, the student will be prepared to work as an adaptive physical education specialist in a variety of settings.

Dept.	No.	Course	Semester Hours
HPS	220	Basic Adaptive Physical Education	3
HPS	345	Recreation for Special Groups	2
HPS	432	Advanced Adaptive Physical Education	3

EDT	394	Classroom Structure and Behavior Management	3
EDT	480	Psychology and Education of the Mentally Retarded	3
EDT	482	Curriculum and Methods	3
HPS	416	Student Teaching	3
			20

STATE CURRICULUM IN ATHLETIC TRAINING

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>
PSY	101	Introduction to Psychology	3
HPS	117	Personal and Community Health	3
HPS	220	Adapted Physical Education	3
HPS	230	Basic Athletic Training	3
HPS	305	Human Anatomy	3
HPS	306	Human Physiology	3
PSY	251	Human Growth and Development	3
OR			
PSY	341	Social Psychology	3
HPS	336	First Aid/Personal Safety	2
HPS	337	Cardiopulmonary Resuscitation	1
HPS	330	Advanced Techniques for Athletic Training I	3
HPS	335	Massage Therapy	1
HPS	430	Advanced Techniques for Athletic Training II	3
HPS	338	Athletic Training Internship (1500 clock hours)	6
HPS	431	Nutrition for Exercise and Sport	2
HPS	408	Physiology of Exercise	2
HPS	408L	Physiology of Exercise Lab	1
HPS	409	Kinesiology	2
HPS	409L	Kinesiology Lab	1
			45

CERTIFICATION PROGRAM IN INTERSCHOLASTIC COACHING

The certificate in Interscholastic Coaching may be pursued by any student in the School of Education.

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>
HPS	230	Basic Athletic Training and Laboratory	3
HPS	336	Standard First Aid and Personal Safety	2
HPS	337	Cardiopulmonary Resuscitation (CPR)	1
HPS	403	Principles, Ethics, and Practices of Coaching	1-3
HPS	404	Coaching Internship	3
HPS	431	Nutrition for Exercise and Sport	3
HPS	447	Administration of Interscholastic and Intramural Athletics	2
HPS	—	Coaching courses (Minimum of 2 coaching courses)	2-4
HPS	—	At least 3 sem. hrs. from recommended electives	3
			20-24

FACULTY

Donald W. Morefield, *Chairperson*
Professor Emeritus: LaVanche
Professors: Drees, Schleppe
Associate Professors: Laubach, Leonard, Siciliano
Assistant Professors: Goldfine, Morefield, Roberts
Field Experience Coordinator: Coy

COURSES OF INSTRUCTION

HPS 109. PERSONAL AND PROFESSIONAL DEVELOPMENT OF THE TEACHER: A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a physical and/or health education teacher. *2 sem. hrs.*

HPS 110. PERSONAL AND PROFESSIONAL DEVELOPMENT OF THE TEACHER: Practicum experiences on campus and in local area schools to enable the student to explore interests and test commitment to the teaching profession. *2 sem. hrs.*

HPS 111. INTRODUCTION TO SPORTS MANAGEMENT: A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a sports management career. *2 sem. hrs.*

HPS 112. INTRODUCTION TO EXERCISE SCIENCE AND FITNESS MANAGEMENT: A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for an exercise science and fitness management career. *2 sem. hrs.*

HPS 117. PERSONAL AND COMMUNITY HEALTH: Survey of health science and principles of preventive medicine as introduction to other courses in personal or community health and health education. Required for physical education majors. *2-3 sem. hrs.*

HPS 130. PHYSICAL EDUCATION ACTIVITIES: Skills and understanding basic to an appreciation of selected activities. Open to all University students. Consult the composite for current offerings. *1-2 sem. hrs.*

HPS 181. TUMBLING AND GYMNASTICS: Preparation of physical education teachers to instruct beginning-level gymnastics. Skills for both male and female events useful in teaching coeducational classes. Required for HPS majors. *2 sem. hrs.*

HPS 182. CONDITIONING I: Aerobic conditioning techniques developed primarily through running and water exercise programs. Required for HPS majors. *1 sem. hr.*

HPS 183. CONDITIONING II: Principles and techniques for developing muscular strength and endurance conditioning. Required for HPS majors. *1 sem. hr.*

HPS 184. CONDITIONING III: A course designed for Exercise Science majors to introduce them to concepts and techniques of aerobic conditioning using exercise devices such as treadmills, bicycle ergometers, stairmasters, rowing machines, etc. Prerequisites HPS 182; HPS 183. *1 sem. hr.*

HPS 200. MOTOR LEARNING: Investigation of fundamental principles of human movement. Physical and psychological variables essential to motor learning are considered. Prerequisite for HPS 300. *2 sem. hrs.*

- HPS 209. **TEACHING AEROBICS:** The fitness concept of aerobic conditioning through exercise routines done to music. Basic dance steps, patterns, teaching tips to enable students to choreograph their own warm-up, aerobic, and cool down routines.
2 sem. hrs.
- HPS 220. **ADAPTIVE PHYSICAL EDUCATION:** A course to prepare prospective teachers to adapt a physical education program so all children and youth can successfully participate in activity programs. Study of the atypical child in order to organize and administer a program which will meet individual needs.
3 sem. hrs.
- HPS 222. **AUDIO-VISUAL MATERIALS AND EQUIPMENT:** Practical application of skills in the preparation, selection, storage, and care of audio-visual materials and equipment appropriate to health education and to physical education.
1 sem. hr.
- HPS 223. **BASIC MOVEMENT EDUCATION:** Study of movement fundamental to all the traditional content areas of games and sports, dance, and gymnastics. Prerequisite for HPS 324.
3 sem. hrs.
- HPS 225. **COMPUTER APPLICATIONS IN SPORT SCIENCE:** The course focuses on understanding the ethical uses of computers as a tool for assessment, instruction, and management in physical education, sport management, and exercise science. Emphasis is placed on demonstrated proficiency in word processing, database, spreadsheet, print/graphics utilities, and statistical software to accomplish job-related tasks of problem solving, information management, communication, and decision-making.
3 sem. hrs.
- HPS 230. **BASIC ATHLETIC TRAINING:** Application of principles and methods involved in prevention, care, and treatment of athletic injuries.
3 sem. hrs.
- HPS 245. **MODERN DANCE:** Basic and intermediate techniques in Modern Dance. The study of dance as an art form. First term, every other year. Elective.
2 sem. hrs.
- HPS 251. **SCHOOL HEALTH SERVICES & ENVIRONMENT:** The organization and administration of a school health program with emphasis on health services, and healthful school living.
3 sem. hrs.
- * HPS 275. **HISTORY OF PHYSICAL EDUCATION AND SPORT:** Study of the historical development of physical education and sport as it relates to significant events in the history of Western civilization.
3 sem. hrs.
- HPS 300. **METHODS OF TEACHING PHYSICAL EDUCATION:** Study of the methods and skills essential for effective teaching in physical education. Prerequisite: HPS 200.
3 sem. hrs.
- HPS 301. **SPORT IN AMERICA:** Development of appreciation and understanding of sport in society. Study of sport and related areas in the American and selected European cultures.
2 sem. hrs.
- * HPS 305. **HUMAN ANATOMY AND LABORATORY:** Study of the human body with emphasis on the interdependent relationships of structure and function. Prerequisite to HPS 408-409.
3 sem. hrs.
- * HPS 306. **HUMAN PHYSIOLOGY:** Study of the functions of body systems. Cell physiology, structural contributions or limitations, concepts of biochemistry, control of functions, physiological limits of function, and examples of pathologic developments.
3 sem. hrs.
- HPS 309. **METHODS OF TEACHING HEALTH:** Study of the instructional phase of the school health program with emphasis on the methods of teaching health in the elementary and secondary schools.
3 sem. hrs.
- HPS 310. **COACHING BASKETBALL:** The theory, skills, strategies, and methods of coaching basketball. First term, each year. Elective.
2 sem. hrs.

- HPS 312. COACHING FOOTBALL: The theory, skills, strategies, and methods of coaching football. Second term, each year. Elective. *2 sem. hrs.*
- HPS 314. COACHING BASEBALL: The theory, skills, strategies, and methods of coaching baseball. Elective. *1 sem. hr.*
- HPS 316. COACHING SOCCER: The theory, skills, strategies, and methods of coaching soccer. First term, each year. Elective. *1 sem. hr.*
- HPS 317. COACHING TRACK AND FIELD: The theory, skills, strategies, and methods of coaching track and field. Elective. *1 sem. hr.*
- HPS 318. TEACHING AND COACHING GOLF: The theory, skills, strategies, and methods of teaching and/or coaching golf. *1 sem. hr.*
- HPS 322. COACHING VOLLEYBALL: The theory, skills, strategies, and methods of coaching volleyball. Elective. *1 sem. hr.*
- HPS 324. ELEMENTARY PHYSICAL EDUCATION: Basic theory, techniques and methods for conducting a program for elementary students. Prerequisite: HPS 223. *3 sem. hrs.*
- HPS 330. ADVANCED ATHLETIC TRAINING: Advanced techniques of evaluation, treatment, and rehabilitation of athletic injuries; basic pharmacology and therapeutic modalities. *3 sem. hrs.*
- HPS 335. INTRODUCTION TO THERAPEUTIC MASSAGE: Introduction to bodywork and issues of health and wellness. Laboratory sessions will provide an opportunity to integrate and apply massage knowledge and skill drawn from a variety of healing systems; Swedish Massage, Acupressure, Reflexology and Hydrotherapy. Designed for students in Exercise Science Athletic Training and Health Care. *1 sem. hr.*
- HPS 336. STANDARD FIRST AID AND PERSONAL SAFETY: Study of basic principles involving personal safety and accident prevention. Application of first aid knowledge and skills in emergencies. National Red Cross Instructor's certificate for Standard First Aid and Personal Safety may be obtained. *2 sem. hrs.*
- HPS 337. CARDIOPULMONARY RESUSCITATION (CPR): The American National Red Cross course designed to certify the student both in basic CPR techniques and in CPR instruction. *1 sem. hr.*
- HPS 338. ATHLETIC TRAINING INTERNSHIP: Practical experience in a traditional athletic training program and allied clinical settings. Students must complete a minimum of 1500 clock hours. Prerequisites: HPS 230, 336, 337. *2 sem. hrs.*
- HPS 339. EMERGENCY MEDICAL TRAINING: Study of the basic principles and techniques applied in medical emergencies. Opportunity for certification as Emergency Medical Trainer. *3 sem. hrs.*
- HPS 341. INTRODUCTION TO RECREATIONAL SERVICES: Fundamentals of the nature, scope, and significance of organized recreation services. *2 sem. hrs.*
- HPS 342. RECREATIONAL SPORTS PROGRAMMING: An overview of the current programmatic elements and techniques in recreational sports. *2 sem. hrs.*
- HPS 343. RECREATIONAL LEADERSHIP: The roles of recreation leaders in many types of community organizations. Analysis of key concepts underlying successful leadership and leadership techniques. *2 sem. hrs.*

- HPS 344. **OUTDOOR EDUCATION—SCHOOL CAMPING:** Action seminar to familiarize teachers and recreation leaders with the curricula, teaching techniques, and skills for good outdoor education programs. *2 sem. hrs.*
- HPS 345. **RECREATION AND SPECIAL GROUPS:** Brief history of rehabilitation and recreation services. Development of skills essential for serving the recreational needs of special populations: teenagers, elderly, juvenile and adult offenders, mentally retarded, physically disabled, and sensory impaired. *2 sem. hrs.*
- HPS 350. **PRINCIPLES OF SPORT MANAGEMENT:** Examination of the nature of management from theoretical and practical perspectives in a variety of sport settings. Focus on managerial functions and skills. *3 sem. hrs.*
- HPS 351. **FACILITY MANAGEMENT:** The processes of planning, constructing, equipping, and maintaining sport facilities are investigated in this course. In addition, the multi-faceted nature of event management is examined in a variety of sport settings. *3 sem. hrs.*
- HPS 352. **EVENT MANAGEMENT:** The purposes, types, organization, administration and evaluation of events as they relate to sport, facility and community environments. *2 sem. hrs.*
- HPS 355. **SPORT MANAGEMENT PRACTICUM/SEMINAR:** The sport management practicum and seminar is designed for students to gain insight into a wide array of field experiences within this discipline. Students are given choices of field work within a variety of sport and recreation settings. In addition, a weekly seminar is required as part of the practicum experience. *1-3 sem. hrs.*
- HPS 360. **ADDICTION EDUCATION:** This is a search into the causes of human compulsion which lead to addictive behavior, a survey of addictive substances, individual research into preventive and treatment programs, and the current display of attitudes by concerned social groups and individuals. *2 sem. hrs.*
- HPS 361. **HEALTH CONSUMERISM:** Sorting fad from fact in using health products and services from the present market—includes fad diets, nutrition nonsense, survey of medical hoaxes, misleading advertising and protection that is available to all health consumers. Research into current fads and frauds and exposure of health myths and misconceptions is included. *2 sem. hrs.*
- HPS 362. **ENVIRONMENTAL HEALTH EDUCATION:** A selected study of present environmental health conditions. Emphasis is on improvement of those conditions through individual effort and community action. *2 sem. hrs.*
- HPS 363. **EMOTIONAL HEALTH:** Study of emotions, behavior, personality, social relationships, and adjustments to change. The aim is toward increased self-understanding, and improved efficiency for healthful living. *2 sem. hrs.*
- HPS 364. **SEXUALITY EDUCATION:** Study of maturation, reproduction, pregnancy, birth, and physiological development in humans. Emphasis on the psychological concept of sexuality in American society. *2 sem. hrs.*
- HPS 365. **EDUCATION FOR PARENTING:** Selected issues surrounding family composition and roles, life cycles, marriage, family relationships, and parenting. *2 sem. hrs.*

- HPS 367. COMMUNITY HEALTH PROGRAMS: Development of those skills necessary to perform as a community health educator in a variety of settings. 2 sem. hrs.
- HPS 373. STRESS MANAGEMENT FOR THE EDUCATOR: Examination of life's stressors, utilization of reduction techniques, and assisting others with the management of stress. Special attention to controlling stress in the school setting. 2 sem. hrs.
- HPS 374. HEALTHFUL LIFESTYLES: Study of behaviors, attitudes, and values contributing to positive health practices. Assessment of individual lifestyle to improve health status. 2 sem. hrs.
- HPS 400. PHYSICAL EDUCATION WORKSHOPS: Various workshops will be conducted depending upon the needs of the clientele. 1-3 sem. hrs.
- HPS 401. THE OLYMPIC GAMES: Study of the historical development of the Olympic Games, especially since 1896. Cultural, political, economic, and scientific considerations. 2 sem. hrs.
- HPS 403. PRINCIPLES, ETHICS, AND PRACTICES OF COACHING: General principles governing the administrative and coaching functions of planning, organizing, and instructing athletic teams. Elective. 2 sem. hrs.
- HPS 404. COACHING INTERNSHIP: Practical coaching experience working in local schools with interscholastic teams. Elective. 1-3 sem. hrs.
- HPS 405. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION: A direct relationship of tests and measurements to the teaching situation. 3 sem. hrs.
- HPS 407. SEMINAR IN CURRENT HEALTH ISSUES: Seminar on current health problems with emphasis on prevention, solution, and the related roles of the health educator. 2 sem. hrs.
- HPS 408. PHYSIOLOGY OF EXERCISE: Detailed study of the effects of exercise on human functions, as a basis for the study of physical fitness, motor skills, and athletic training. Prerequisites: HPS 305-306. 2 sem. hrs.
- HPS 408L. PHYSIOLOGY OF EXERCISE LABORATORY: Course to accompany EDP 408. Weekly two-hour laboratory stressing practical applications of exercise physiology. 1 sem. hr.
- HPS 409. KINESIOLOGY: Investigation and analysis of human motion based on anatomical, physiological, and mechanical principles. Prerequisites: HPS 305-306. 2 sem. hrs.
- HPS 409L. KINESIOLOGY LABORATORY: Course to accompany HPS 409. Weekly two-hour laboratory stressing the practical application of kinesiology. 1 sem. hr.
- HPS 412. COMMUNITY HEALTH RESOURCES: The functions and services of various local health agencies. Course members select agencies to visit and/or invite to campus. 3 sem. hrs.
- HPS 413. HEALTH EDUCATION FOR THE ELEMENTARY EDUCATOR: A study of the total school health program. Elementary education majors only. 3 sem. hrs.
- HPS 414. PHYSICAL EDUCATION FOR THE ELEMENTARY EDUCATOR: A course designed to equip the elementary education major with basic theory, techniques, and methods for conducting a physical education program for elementary students. Elementary education majors only. 2 sem. hrs.
- HPS 415. HEALTH AGENCY INTERNSHIP: Student spends 60 hours working with agency of his or her choice. Prerequisites: Junior standing, HPS 412. 2 sem. hrs.

HPS 416. STUDENT TEACHING (ADAPTED PHYSICAL EDUCATION CERTIFICATION): Teaching under close supervision of a certified adapted physical education specialist for a minimum of three weeks. Prerequisite: Formal admission a full semester in advance. *3 sem. hrs.*

HPS 417. STUDENT TEACHING (K-12 TEACHING FIELD): Teaching under close supervision in the specialized subject area in both elementary and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

HPS 418. STUDENT TEACHING (7-12 TEACHING FIELD): Teaching under close supervision in the specialized subject area in the high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

HPS 419. STUDENT TEACHING (HEALTH): Teaching under close supervision in the specialized subject area in elementary, junior high, and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

HPS 420. LIFEGUARDING: The American Red Cross Senior Life Saving Course. Prerequisite: Advanced Swimming. First term, each year. Elective. *1 sem. hr.*

HPS 421. WATER SAFETY INSTRUCTION: The American Red Cross Safety Instructor's Course. Prerequisite: Senior Life Saving. Second term, each year. Elective. *2 sem. hrs.*

HPS 428. RESEARCH AND EVALUATION IN HEALTH: Introduction to statistical analysis and research methodology in determining health statistics, designing and evaluating health studies, and accessing data banks; collection, analysis, and interpretation of health statistics. *3 sem. hrs.*

HPS 430. PRINCIPLES AND ADMINISTRATION OF HEALTH PROGRAMS: Establishment of the need for health education, historical development, survey of various philosophies, and discussion of specific professional standards, all aimed toward conceptualization of a personal philosophy by the health educator. *3 sem. hrs.*

HPS 431. NUTRITION FOR EXERCISE AND SPORT: Investigation of current research in the nutritional assessment of the athlete. Topics include dietary needs, fluid replenishment, pre-game meals, and "fad" diets for the athlete. *2 sem. hrs.*

HPS 432. ADVANCED ADAPTED PHYSICAL EDUCATION: A course designed for prospective Adapted Physical Education Specialists. Emphasis is placed on the responsibility, process and development of educating the exceptional population in a physical education setting. Prerequisite: Adapted Physical Education. *3 sem. hrs.*

HPS 433. ADVANCED ATHLETIC TRAINING II: Advanced techniques emphasizing use of therapeutic modalities, rehabilitation of athletic injuries, and basic pharmacology. Prerequisites: Basic Athletic Training, CPR and Human Anatomy. *3 sem. hrs.*

HPS 435. THE EXERCISE ECG: Evaluation of exercise electrocardiograms from healthy persons. Prerequisites: HPS 306; HPS 408, 408L. *3 sem. hrs.*

HPS 437. SCHOOL NURSE PRACTICUM. Full-time daily experience in a school setting for 12 weeks with exposure to and participation in all aspects of the school health program, especially school nurse duties and services. *12 sem. hrs.*

HPS 440. INTRODUCTION TO DRIVER AND TRAFFIC SAFETY EDUCATION: Specifics of classroom instruction in the various subject-matter fields. Selection of presentation and evaluation techniques based on recognized course objectives. First term, alternate years. Elective. *3 sem. hrs.*

HPS 441. ORGANIZATION AND ADMINISTRATION OF DRIVER AND TRAFFIC SAFETY EDUCATION: Organizational and administrative aspects of driver and traffic education as they relate to the total school and other specialized programs. Prerequisite: HPS 440. Second term, alternate years. Elective. *3 sem. hrs.*

HPS 446. SCIENTIFIC PRINCIPLES OF ATHLETIC CONDITIONING: Factors which affect human performance in athletic competition. Methods and theories of training, conditioning, and reconditioning. *2 sem. hrs.*

HPS 447. ADMINISTRATION OF INTERSCHOLASTIC AND INTRAMURAL ATHLETICS: Structure of interscholastic and intramural athletics and their appendages: staffing, financing, facilities, scheduling, crowd control, sports medicine. *2 sem. hrs.*

HPS 448. SAFETY AND THE LAW IN PHYSICAL EDUCATION AND SPORTS: Study of the legal aspects of physical education and athletics. Analysis of specific court cases. Formulation of safety policies. *2 sem. hrs.*

HPS 450. SELECTED STUDIES IN HEALTH: Investigating, analyzing, and reporting on a problem in health. Permission of chairperson. *1-3 sem. hrs.*

HPS 452. DEATH AND DYING—EDUCATION FOR THE LIVING: Emphasis on "education for healthful living," by bringing the subject of death and dying out of hiding into the realm of positive reality. *2 sem. hrs.*

HPS 453. CHILD ABUSE—THE EDUCATOR'S ROLE. The educator's legal responsibility in suspected child abuse. Attention to the local, state, and national incidence of child abuse, including physical, emotional, and sexual abuse. Teaching techniques for mental health education and parenting education. *2 sem. hrs.*

HPS 455. SELECTED STUDIES IN PHYSICAL EDUCATION: Investigating, analyzing, and reporting on a problem in physical education. Prerequisite: Permission of chairperson. Elective. *1-3 sem. hrs.*

HPS 470. CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION: Principles and procedures for curriculum construction and revision. Study of philosophies (institutional, professional, and personal) and their relationship to curriculum development. *3 sem. hrs.*

HPS 485. SPORT MANAGEMENT INTERNSHIP: Work experience carried out under the auspices and supervision of the sports management staff. Application and permission of director of Sports Management Program required. *12 sem. hrs.*

HPS 490. EXERCISE SCIENCE INTERNSHIP—ON CAMPUS: Work experience carried out under the auspices and supervision of the University of Dayton Wellness Program staff. Application and permission of director of Exercise Science and Fitness Management Program required. *2 sem. hrs.*

HPS 491. EXERCISE SCIENCE INTERNSHIP—OFF CAMPUS: Work experience carried out under the auspices of an industrial, commercial, educational, government or health agency-related wellness program. Application and permission of director of Exercise Science and Fitness Management Program required. *6 sem. hrs.*

TEACHER EDUCATION (EDT)

The Teacher Education Department's mission is the development of competent and humane teachers. It provides students and faculty the opportunity to serve and learn in elementary and secondary schools. It dedicates itself to the discovery and transmission of the knowledge, skills, attitudes, and values that enable teachers to be professional leaders.

To assure the competency of its students, the Department has established a selection and retention policy which requires students to demonstrate before student teaching at least a 2.5 overall grade-point average; ability to pass the Pre-Professional Skills Test; competency in the use of audio-visual equipment and materials; and competency in achieving selected objectives in 300 hours of clinical and field-based experiences. At the completion of their programs, all students are required to pass the exit examination mandated by the State Board of Education.

ELEMENTARY EDUCATION (EDE)

The Department of Teacher Education administers the program in elementary education (E1), which leads to the Bachelor of Science in Education and certification to teach grades 1-8.

A student in the Elementary Education Program is required to have a concentration of 20 or more semester hours in mathematics, natural sciences, social sciences, or humanities. See advisor for available concentrations.

Endorsement (E) and validation (V) programs are available in the following:
 Typing/Keyboarding (E)
 Pre-Kindergarten (V)
 Reading (E)

In order to do student teaching and be recommended for certification, the elementary education major must earn an overall quality point average of at least 2.5.

Checksheets for each certification area are available in the Department of Teacher Education, C-207, and the School of Education, C-104.

PROGRAM E1: ELEMENTARY EDUCATION (EDE)

(Leading to Ohio Provisional Elementary Certificate: grades 1-8)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
BIO	101-101L	General Biology I and Laboratory	4	
EDT	109	Personal Aspects of Teaching	0	
EDT	110	The Profession of Teaching ¹		3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	

HST	251 or 252	American History		3
PHL	103	Introduction to Philosophy	3	
PHY	105	Physical Science		4
REL	103	Introduction to Religion		3
VAE	101	Fundamentals and Materials of Art	2	

15	16
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Sophomore Year

EDT	200	History of Education Since 1789	3	
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning ¹		3
EDT	290	Mainstreamed Handicapped Students		3
GEO	103	Principles of Geography	3	
MTH	204-205	Mathematical Concepts I and II	3	3
MUS	104	Music Literature for the Elementary Classroom	2	
CMM	101	Fundamentals of Oral Communication		3
—	—	Concentration ² or electives		3
—	—	General Education requirement ³	3	

17	15
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Junior Year

HPS	413	Health Education for the Elementary Educator	3	
HPS	414	Physical Education for the Elementary Educator	2	
EDT	296	Teaching in the Elementary School ⁴		3
EDT	320	Reading and Language Arts ⁴		4
EDT	325	Social Studies in Elementary School ⁴		3
EDT	326	Mathematics and Science in Elementary School ⁴		4
EDT	360	Literature for Children and Adolescents	3	
EDT	382	Art and Music in Elementary School ⁴		3
—	—	General Education requirement ³	3	
—	—	Concentration ²	6	

17	17
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Senior Year

EDT	413	Student Teaching—Elementary ⁵	12	
EDT	419	Philosophy of Education	3	
—	—	General Education requirement ³		3
—	—	Concentration ² and/or electives		12

15	15
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¹Field experiences are arranged by the University. Register also for EDT 100.

²A concentration of 20 or more sem. hrs. in mathematics, natural science, social sciences, humanities, foreign language or international studies.

³See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., BIO 101); others are to be chosen from the listing of approved courses. Consult advisor and checksheets.

⁴EDT 296, 320, 325, 326, and 382 must be taken concurrently. Field experience is required. The methods block should be taken the term before student teaching.

⁵Students will have seminar on campus once a week.

EDUCATION OF THE HANDICAPPED (EHD)

The Department of Teacher Education administers the program in Education of the Handicapped (E10), which leads to certification to teach grades K-12 and to the Bachelor of Science in Education.

A student in the Education of the Handicapped Program is required to have one specialization totalling a minimum of 20 sem. hrs. In order to do student teaching and be recommended for certification, the student must earn a quality point average of at least 2.5 in the specialization, 2.5 in professional education courses, and 2.5 in any additional endorsement or validation area.

Specializations are the following:
 Specific Learning Disabled
 Developmentally Handicapped
 Multihandicapped

Endorsement (E) and validation (V) programs are available in the following:
 Reading (E)
 Typing/Keyboarding (E)
 Pre-Kindergarten (V)

Checksheets for each specialization are available in the Department of Teacher Education, C-207, and the School of Education, C-104.

PROGRAM E10: EDUCATION OF THE HANDICAPPED (EHD)

(Leading to Ohio Provisional Certificate for Education of the Handicapped: grades K-12)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
BIO	101-101L	General Biology I and Laboratory	4	
EDT	109	Personal Aspects of Teaching	0	
EDT	110	The Profession of Teaching ¹		3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	
HST	251 or 252	American History		3
PHL	103	Introduction to Philosophy	3	
PHY	105	Physical Science		4
REL	103	Introduction to Religion		3
VAE	101	Fundamentals and Materials of Art	2	
			15	16
Sophomore Year				
HPS	414	Physical Education for the Elementary Educator		2
EDT	200	History of Education Since 1789	3	
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning ¹		3
EDT	290	Mainstreamed Handicapped Students		3
EDT	390	Introduction to Exceptionalities	3	
GEO	103	Principles of Geography		3
MTH	204-205	Mathematical Concepts I and II	3	3

MUS	104	Music Literature for the Elementary Classroom	2	
CMM	101	Fundamentals of Oral Communication	3	
—	—	General Education requirement ²	—	3
			17	17
Junior Year				
HPS	413	Health Education for the Elementary Educator	3	
EDT	296	Teaching in the Elementary School ³		3
EDT	320	Reading and Language Arts ³		4
EDT	325	Social Studies in Elementary School ³		3
EDT	326	Mathematics and Science in Elementary School ³		4
EDT	360	Literature for Children and Adolescents	3	
EDT	391	Language Development		2
EDT	393	Counseling Parents of Handicapped Children	3	
EDT	394	Behavior Management	3	
EDT	480 or 490	Introductory course for DH-MH or SLD ¹	3	
			15	16
Senior Year				
EDT	419	Philosophy of Education	3	
EDT	481	Assessment of the Special-Needs Learner	3	
EDT	482 or 494	Special Methods ¹	3	
EDT	483	Multihandicapped ⁴		2
EDT	484	Advanced Behavior Management ⁴	2	
EDT	487	Career Education for Handicapped	2	
EDT	—	Student Teaching (485, 488, or 495) ⁵		12
—	—	General Education requirement	3	
—	—	Elective		3
			16	17

¹Field experiences are arranged by the University. Register also for EDT 100.

²See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., BIO 101); others are to be chosen from the listing of approved courses. Consult advisor and checksheets.

³EDT 296, 320, 325, and 326 must be taken concurrently. Field experience is required. Special education students seeking elementary certification must also take EDT 382.

⁴MH majors only.

⁵Students will have seminar on campus once a week.

KINDERGARTEN-PRIMARY EDUCATION (EKP)

The Department of Teacher Education administers the program for kindergarten-primary education (E7) to teach grades K-3, which leads to the Bachelor of Science in Education.

In order to do student teaching and be recommended for certification, the student must earn an overall quality-point average of at least 2.5.

Endorsement of a standard Kindergarten-Primary Certificate is available for Reading and Typing/Keyboarding; validation is available for Pre-Kindergarten.

Checksheets of course requirements are available in the Department of Teacher Education, C-207, and the School of Education, C-104. The suggested four-year schedule of courses is similar to that shown for the Elementary Education Program, E1.

SECONDARY EDUCATION (EDS)

The Department of Teacher Education administers the program in secondary education (E2), which leads to the Bachelor of Science in Education and high school certification (grades 7-12).

A student in the Secondary Education Program is required to have either (1) two teaching fields, usually with a minimum of 33 semester hours in the principal teaching field and a minimum of 30 semester hours in the second teaching field; or (2) a single comprehensive field totaling a minimum of 60 semester hours. In order to do student teaching and be recommended for certification, the student must earn an overall quality point average of at least 2.5.

Secondary education teaching fields include the following:

- | | |
|--------------------------------|--|
| Art | Journalism |
| Biological Science | Mathematics |
| Bookkeeping and Basic Business | Physical Education |
| Chemistry | Physics |
| Computer Science | Political Science |
| Drama/Theater | Psychology/Sociology |
| Earth Science | Religious Studies ¹ |
| Economics | Sales |
| English | Speech/Communication |
| General Science | Stenography and Typing/
Keyboarding |
| Health Education | |
| History | |

Comprehensive fields include the following:

- | | |
|--------------------|-------------------------------|
| Business Education | Social Studies |
| Communications | Vocational Business Education |
| Science | |

Endorsement of a Standard Secondary (High School) Certificate is available for Reading and Typing/Keyboarding.

Checksheets for each field are available in the Department of Teacher Education, C-207, and the School of Education, C-104.

¹Not a state of Ohio certification area.

PROGRAM E2: SECONDARY EDUCATION (EDS)

Dept. No.	Course	Semester Hours		
		1st Term	2nd Term	
First Year				
EDT	109	Personal Aspects of Teaching	0	
EDT	110	The Profession of Teaching ¹		3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	
MTH	102	Fundamentals of Mathematics	3	
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3

—	—	Teaching field		3-4
—	—	Physical or health education elective	1	
—	—	General Education requirements ²	3	3
			<u>16</u>	<u>15-16</u>
Sophomore Year				
EDT	200	History of Education Since 1789 ³		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning ¹		3
CMM	101	Fundamentals of Oral Communication	3	
—	—	Teaching field	9	9
—	—	Physical or health education elective	1	
—	—	General Education requirement ²		3
			<u>16</u>	<u>18</u>
Junior Year				
EDT	351	School, Self, and Society ¹	3	
EDT	469	Reading in the Content Areas ^{1,4}		2-3
—	—	Teaching field	11	12
—	—	General Education requirements ²	3	3
			<u>17</u>	<u>17-18</u>
Senior Year				
EDT	318	Human Relations in Education ⁶	2	
EDT	419	Philosophy of Education ⁶		3
EDT	420	Student Teaching—Secondary ⁵		12
—	—	Special methods in teaching field ^{1,6}	4	
—	—	Teaching field and/or electives	6	3
			<u>12</u>	<u>18</u>

¹Field experiences are arranged by the University. Register also for EDT 100.

²See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses. Consult advisor and teaching-field checksheets.

³Some teaching fields have alternate courses; see checksheets.

⁴Students with teaching fields in English and communications take 3 sem. hrs.

⁵Students will have seminar on campus once a week.

⁶EDT 318, 419, and special methods in teaching field should be taken concurrently.

MUSIC EDUCATION

The Department of Teacher Education cooperates with the Department of Music to offer certification K-12, through the E11A Program. See MUS, Chapter VI.

SPECIAL PROGRAMS K-12

The Department of Teacher Education administers the program for specials (E6) to teach grades K-12, which leads to the Bachelor of Science in Education.

A student in the Special K-12 Program is required to have one teaching field totalling a minimum of 45 semester hours. In order to do student teaching and be recommended for certification, the student must earn an overall quality point average of at least 2.5.

Special teaching fields include the following:

Visual Art (EAR), with three concentrations available:

Commercial Design Photography Studio Art

Foreign Language (ELA), with three concentrations available:

French German Spanish

Music Education (K-12) is also available through the E11A Program. Endorsement of a standard Special Certificate is available for Reading and Typing/Keyboarding.

Checksheets for each field are available in the Department of Teacher Education, C-207, and the School of Education, C-104. The suggested four-year schedule of courses is similar to that shown for the Secondary Education Program, E2.

ENDORSEMENTS AND VALIDATIONS

Following are requirements for endorsements and validations. For each, the student must meet all the requirements in addition to satisfying the requirements for a standard teaching certificate.

READING (ENDORSEMENT): Valid for grades specified in standard certificate.

EDT 320	Reading and Language Arts (including field experience at appropriate level)	4
EDT 360	Literature for Children and Adolescents	3
EDT 468	Diagnosis of Reading Difficulties (including field experience at appropriate level)	4
EDT 469	Reading in the Content Areas (including field experience)	3

TYPING/KEYBOARDING (ENDORSEMENT): Valid for grades specified in standard certificate.

Six sem. hrs. (9 qtr. hrs.) of typing/keyboarding.

NOTE: Courses *must* be taken at another institution and a transcript provided.

PRE-KINDERGARTEN (VALIDATION)

EDT 219	Kindergarten-Primary Instruction	3
EDT 250	Introduction to Early Childhood Education	3
EDT 319	Instructional Materials K-3	3
EDT 470	Pre-Kindergarten Instruction	3
EDT 471	Student Teaching—Pre-Kindergarten	3
HEC 329	Child Development Practicum	3
HEC 417	Infant and Toddler Program	3

NOTE: This validation is available for only the following certification fields:

- Kindergarten-Primary
 - Elementary
 - Education of the Handicapped
-

**CERTIFICATION FOR STUDENTS IN ARTS AND SCIENCES AND
BUSINESS ADMINISTRATION**

PROGRAM E11A: B.A. or B.S. WITH TEACHER CERTIFICATION

**PROGRAM E11B: B.S. in BUSINESS ADMINISTRATION WITH TEACHER
CERTIFICATION**

Students in the College of Arts and Sciences or in the School of Business Administration may enroll in the Department of Teacher Education's Secondary Education Program without transferring to the School of Education. For requirements in professional education courses and in teaching fields consult the chairperson of the Department of Teacher Education.

Enrollment in these programs (E11A for students matriculating in the College of Arts and Sciences; E11B for students matriculating in the School of Business Administration) is subject to the same admission requirements, counseling, maintenance of a unified system of records, screening, and other professional provisions standard for regular students of the School of Education working toward the B.S. in Education. These include passing the Preprofessional Skills Test; maintaining an overall average of 2.5; completing field-clinical and student teaching hours (300 each); taking the comprehensive National Teacher Examinations (NTE); and being in good academic standing at the University.

In order to finish in four years, a student in the College of Arts and Sciences or the School of Business Administration will need to process an application for admission to the Secondary Education Program no later than the third semester and begin the professional education sequence. Failure to enroll on time may necessitate going beyond the normal four years in order to qualify for teacher certification and graduation. The requirements for the College of Arts and Sciences (Chapter VI) or the School of Business Administration (Chapter VII) and those of the School of Education must be completed before any degree is granted.

When the proper course requirements have been completed, the student may register for student teaching, provided that the application for student teaching is duly processed at the beginning of the semester directly prior to the one during which student teaching will take place and that the student has passed the normal screening procedure.

When all the requirements for teacher certification are completed, the student should make application for the standard State Teaching Certificate through the official recommending officer of the School of Education, C-104.

FACULTY

Roberta Weaver, Chairperson

James Biddle, Assistant Chairperson

Professor Emerita: Petit, Frye

Professors: Anderson, Britt, Fuchs, Gay, Geiger, Joseph, Lasley, Watras

Associate Professors: Biddle, Shugarman Douvre, Weaver

Assistant Professors: Carlsen, Egnor-Brown, Hart, Hunn, Rowley, Sudzina,

Talbert-Johnson, Tillman

Lecturers: Fogel, Neff

Part-time Instructors: Torge

Field Experience Coordinators: Coy, Russell

COURSES OF INSTRUCTION

EDT 100. FIELD-BASED EXPERIENCES: Planned, supervised, and evaluated activities in urban, suburban, or rural schools. Students register for this course in conjunction with appropriate courses in the professional education sequence. Objectives are identified in the Field-Based and Clinical Experiences section of the Student Handbook. *No credit*

EDT 109. PERSONAL ASPECTS OF TEACHING: General introduction to education and the University. Identification of students' personal values, goals, motives, and strengths in light of the qualities and requirements of effective teaching. *No credit*

EDT 110. THE PROFESSION OF TEACHING: Study of the principal teacher behaviors that facilitate learning and those that stand in its way. Emphasis on aspects of learning theory and their application to the teaching and learning process. Clinical and field experiences (24 and 20 hrs.). *3 sem. hrs.*

* EDT 200. HISTORY OF EDUCATION SINCE 1789: Study of the relationship of schools and social changes in Europe and America from the French Revolution to the present (in order to determine if schools advance social justice.) Prerequisites: HST 102 or permission. *3 sem. hrs.*

EDT 207. CHILD AND ADOLESCENT IN EDUCATION: Study of the empirical principles of intellectual, moral, physical, personality, and social development as related to performance in the classroom. Interpretations for appropriate generic teaching behaviors and developmental causes of behavior problems. Clinical experience (20 hrs.). Prerequisite: EDT 110 or permission. *3 sem. hrs.*

EDT 208. TEACHING AND LEARNING: Study of the empirical principles of learning such as reinforcement, discovery, motivation, and transfer. Interpretations for generic teaching behaviors especially in diagnosis, prescription, and evaluation. Clinical and field experience (10 and 20 hrs.). Prerequisite: EDT 207. *3 sem. hrs.*

EDT 219. KINDERGARTEN-PRIMARY INSTRUCTION: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching children on the kindergarten-primary levels. Clinical and field experience (10 and 20 hrs.). Prerequisite: EDT 208. *3 sem. hrs.*

EDT 250. INTRODUCTION TO EARLY CHILDHOOD EDUCATION: Study of the development of children from birth through age eight, including psychology of learning; cultural, economic, governmental, and social factors that affect family and child. Field experience (10 hrs.). Prerequisite: EDT 207 or permission. *3 sem. hrs.*

EDT 290. MAINSTREAMED HANDICAPPED STUDENTS: Study of special-needs learners and the learning problems and difficulties they face in the mainstreamed classroom; resources and curricular modifications; instructional strategies that facilitate learning in the regular classroom. Clinical experience (10 hrs.). Prerequisite: EDT 207. *3 sem. hrs.*

EDT 296. TEACHING IN THE ELEMENTARY SCHOOL: Study of the role of the teacher in the classroom including classroom management and human relations, lesson planning, assessment, instructional methods and media, and evaluation of teaching. Clinical experience (30 hrs.). Prerequisite: EDT 208. Corequisites: EDT 320, 325, 326, 382. *3 sem. hrs.*

EDT 318. HUMAN RELATIONS IN EDUCATION: Study and development of the human relations skills that promote learning and democratic classroom interaction and management regardless of race, political affiliation, religion, age, sex, socio-economic status, or exceptionality. Clinical experience (15 hrs.). Prerequisite: EDT 208.

2 sem. hrs.

EDT 319. INSTRUCTIONAL MATERIALS—K-3: Study of psychological principles that should guide instructional material selection; examination, development, and evaluation of materials for kindergarten-primary teaching. Clinical experience (20 hrs.). Prerequisite: EDT 219.

3 sem hrs.

EDT 320. READING AND LANGUAGE ARTS: Foundations of teaching reading. Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching reading and language arts to students with varied needs and abilities. Clinical and field experience (14 and 48 hrs.). Prerequisite: EDT 208. Corequisites: EDT 296, 325, 326, 382.

4 sem. hrs.

EDT 325. SOCIAL STUDIES IN ELEMENTARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching social studies to students with varied needs and abilities. Clinical and field experience (12 and 30 hrs.). Prerequisite: EDT 208. Corequisites: EDT 296, 320, 326, 382.

3 sem. hrs.

EDT 326. MATHEMATICS AND SCIENCE IN ELEMENTARY SCHOOL: Planning diagnosis, instructional methods, materials, and evaluation techniques for teaching mathematics and science to students with varied needs and abilities. Clinical and field experience (20 and 36 hrs.). Prerequisite: EDT 208. Corequisites: EDT 296, 320, 325, 382.

4 sem. hrs.

EDT 331. TEACHING RELIGION: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching religion to students with varied needs and abilities. Prerequisites: REL courses, junior standing.

3 sem. hrs.

EDT 351. SCHOOL, SELF, AND SOCIETY: Study of the relationship among institutional reform, personality development, and social change in order to determine if schools advance social justice; comparison of rural, urban, and suburban schools and social settings; study of the laws and policies affecting the education of handicapped students. Field and clinical experience (34 and 6 hrs.). Prerequisite: EDT 208 or permission.

3 sem. hrs.

EDT 360. LITERATURE FOR CHILDREN AND ADOLESCENTS: Study of children's books to develop critical standards for judgment. Guidance in selection of books for specific needs, interests, and reading abilities in eight genres; techniques for use in the classroom. Preschool through senior high school levels. Clinical experience (6 hrs.). Prerequisite: EDT 208 or permission.

3 sem. hrs.

EDT 382. ART AND MUSIC IN ELEMENTARY SCHOOL: Curriculum, planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching art and music to students with varied needs and abilities. Clinical experience (20 hrs.). Prerequisite: VAE 101. Corequisites: EDT 296, 320, 325, 326.

3 sem. hrs.

EDT 390. INTRODUCTION TO EXCEPTIONALITIES: Study of the special-needs learner for majors in Education of the Handicapped Program. Definition, etiology, characteristics, and educational options. Field and clinical experience (20 and 10 hrs.). Prerequisite: EDT 290.

3 sem. hrs.

EDT 391. LANGUAGE DEVELOPMENT: Study of language development in children with implications for the special-needs learner including alternative communication modes, sign language, communication boards, and augmentative devices. Clinical experience (10 hrs.). Prerequisite: EDT 290 or 390. *2 sem. hrs.*

EDT 393. COUNSELING PARENTS OF HANDICAPPED CHILDREN: Theory and techniques to help teachers work with parents to improve home-school relationships and to develop parent-teacher partnerships. Prerequisite: EDT 390. *3 sem. hrs.*

EDT 394. BEHAVIOR MANAGEMENT: Principles and methods of observing, recording, measuring, and managing human behavior with emphasis for students with mental retardation, learning disabilities, and behavior disorders. Prerequisite: EDT 290 or 390. *3 sem. hrs.*

EDT 404. BUSINESS EDUCATION IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching business to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 405. ENGLISH AND SPEECH IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching English and speech to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 406. SOCIAL STUDIES IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching history, sociology, political science, psychology, and other social studies to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 407. SCIENCE IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching the biological and physical sciences to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 408. FOREIGN LANGUAGE TEACHING: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching Latin and modern foreign languages in elementary and secondary schools to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 409. MATHEMATICS IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching all levels of mathematics to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 410. STUDENT TEACHING—KINDERGARTEN-PRIMARY: Full-time supervised and evaluated teaching in a K-3 setting. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning K-3 teacher. Weekly seminar. Prerequisites: EDT 219, 296, 319, 320, 325, 326, 382. *6-10 sem. hrs.*

EDT 413. STUDENT TEACHING—ELEMENTARY: Full-time supervised and evaluated teaching for a full semester in an elementary school. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning elementary school teacher. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance; EDT 290, 296, 320, 325, 326, 382. *9-12 sem. hrs.*

EDT 414. STUDENT TEACHING—OUTDOOR EDUCATION: Full-time supervised and evaluated teaching in an outdoor education facility. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning outdoor education teacher. Prerequisite: Student teaching in major program area. *3 sem. hrs.*

* EDT 419. PHILOSOPHY OF EDUCATION: Study of normative principles including the Marianist perspective; analysis of philosophical concepts related to education. Interpretations for the development of a critical and humane theory of teaching. Prerequisite: EDT 320 or 351. *3 sem. hrs.*

EDT 420. STUDENT TEACHING—SECONDARY: Full-time supervised and evaluated teaching in content area junior or senior high school classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning secondary teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance, methods course. *12 sem. hrs.*

EDT 421. STUDENT TEACHING—ART K-12: Full-time supervised and evaluated teaching in art classes in elementary and secondary grades. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning teacher after completion of a 65-hr. on-site clinical experience. Weekly seminars. Prerequisites: Formal admission to student teaching a full semester in advance, methods course. *12 sem. hrs.*

EDT 422. STUDENT TEACHING—MUSIC K-12: Full-time supervised and evaluated teaching in music classes in elementary and secondary grades. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning music teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance; methods courses. *12 sem. hrs.*

EDT 423. CATHOLIC PHILOSOPHY OF EDUCATION: Study of normative principles and analyses of concepts related to Catholic education. Interpretations for the development of a theory of teaching compatible with Catholicism. *3 sem. hrs.*

EDT 424. STUDENT TEACHING—LANGUAGES K-12: Full-time supervised and evaluated teaching of foreign languages in both elementary and secondary classes. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning foreign language teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance, EDT 408. *12 sem. hrs.*

EDT 431. AUDIO-VISUAL INSTRUCTION: Study of supporting learning theory and techniques of integrating audio-visual equipment and materials into curriculum and teaching methods; demonstration lessons for selected content areas. *2 sem. hrs.*

EDT 437. VOCATIONAL BUSINESS CONTENT AND METHODS: A qualifying course for vocational business certification. Study of the objectives, curriculum, student-teacher relationship, community needs, equipment, facilities, public relations, youth groups, advisory committees, vocational reports, and PRIDE. Prerequisites: EDT 404, comprehensive business education. *4 sem. hrs.*

EDT 438. VOCATIONAL BUSINESS SUPERVISED FIELD EXPERIENCE: Application of classroom theory concerning business and office skills in actual practice in the community. May be repeated with permission of instructor. *1 sem. hr.*

EDT 440. SPECIAL TOPICS IN TEACHING: Study of specialized areas in teaching not normally investigated fully in professional education sequence. Topics are announced. *1-3 sem. hrs.*

EDT 451. COMPUTERS IN EDUCATION: Introduction to the uses of computers in education including an examination of data management and applications in various content areas and at various levels. *3 sem. hrs.*

EDT 452. TECHNIQUES IN HOSPITAL INSTRUCTION: Planning, instructional methods (i.e., formal classes, clinical work, on-the-job training), materials, and evaluation techniques for providing instruction to adult learners in hospitals and other allied health facilities. *2 sem. hrs.*

EDT 454. HISTORY OF EDUCATION IN THE UNITED STATES: Study of the relationship of schools and social changes in the United States from colonial times to the present. Interpretations of changes in educational policies and practices for the development of a critical theory of education. *3 sem. hrs.*

EDT 456. INDEPENDENT STUDY: Study of selected topics in teaching. Student develops an individual learning plan that includes objectives, schedule of activities, products, and methods of evaluation. Prerequisite: Permission of chairperson or assistant chairperson. *1-3 sem. hrs.*

EDT 458. CAREER EDUCATION—COMMUNITY INVOLVEMENT: Curriculum, planning, instructional methods, materials, and evaluation techniques for facilitating career awareness and choices in students with varied needs and abilities; special emphasis on use of community resources. *3 sem. hrs.*

EDT 461. ADVANCED COMPUTERS IN EDUCATION: Design of instruction using computers in the classroom. LOGO and word-processing skills presented and developed. Prerequisite: EDT 451 or permission. *3 sem. hrs.*

EDT 462. METHODS—COMPUTERS IN EDUCATION: Techniques in teaching the use of microcomputers for problem solving in the classroom and in serving as a microcomputer consultant in schools. Clinical experience (10 hrs.) Prerequisite: EDT 461. *3 sem. hrs.*

EDT 465. DISCIPLINE SKILLS IN THE CLASSROOM: Study of selected theories and strategies to improve student behavior for academic success. *2-3 sem. hrs.*

EDT 468. DIAGNOSIS OF READING DIFFICULTIES: Study of formal and informal diagnostic tests and procedures for identifying reading strengths and weaknesses with applications for reading programs. Field experience (36 hrs.). First term. Prerequisite: EDT 320. *4 sem. hrs.*

EDT 469. READING IN THE CONTENT AREAS: Study of reading problems and techniques for teaching vocabulary and reading skills in various content areas. Clinical experience (8 hrs.); plus field experience (24 hrs.) for secondary education majors. Prerequisite: Elementary education majors EDT 320. *1-3 sem. hrs.*

EDT 470. PRE-KINDERGARTEN INSTRUCTION: Study of the organization and structure of pre-kindergarten programs including working with parents, laws and regulations, operational strategies, and teaching methods and materials. Field and clinical experience (5 and 10 hrs). Prerequisite: EDT 250. *3 sem. hrs.*

EDT 471. STUDENT TEACHING—PRE-KINDERGARTEN: Full-time supervised and evaluated teaching in a pre-kindergarten. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning pre-kindergarten teacher. Weekly seminar. Prerequisites: EDT 410 or 413; 470. *3 sem. hrs.*

EDT 478. COMPARATIVE EDUCATION: Study of educational systems in selected countries. Appropriate comparisons of systems of education in Marxist countries and those in democratic countries. Special projects. *3 sem. hrs.*

EDT 480. PSYCHOLOGY AND EDUCATION OF THE MENTALLY RETARDED: Study of identification, characteristics, learning theories, and curriculum planning appropriate to the handicapped. Field experience (40 hrs.). Prerequisite: EDT 390. *3 sem. hrs.*

EDT 481. ASSESSMENT OF THE SPECIAL-NEEDS LEARNER: Study of the multi-disciplinary use of assessment devices and techniques in the diagnosis, planning, and evaluation of the special-needs learner and the development of individual educational plans. Clinical experience (30 hrs.). Prerequisite: EDT 480 or 490. *3 sem. hrs.*

EDT 482. CURRICULUM AND METHODS—MR: Curriculum development, instructional materials, and evaluation techniques and individual programming for the MR student. Clinical experience (10 hrs.). Prerequisite: EDT 480. *3 sem. hrs.*

EDT 483. MULTIHANDICAPPED: Curriculum, planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching the pre-school to adult multihandicapped. Clinical experience (10 hrs.). Prerequisites: EDT 394, 480. *2 sem. hrs.*

EDT 484. ADVANCED BEHAVIOR MANAGEMENT: Study of principles and methods of dealing with the hard-to-manage student. Clinical experience (10 hrs.). Prerequisites: EDT 394, 480. *2 sem. hrs.*

EDT 485. STUDENT TEACHING—DH: Full-time supervised and evaluated teaching in a DH classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning DH teacher. Weekly seminar. Prerequisite: EDT 482. *12 sem. hrs.*

EDT 486. CURRENT INNOVATIONS IN EDUCATION: Presentation, examination, and evaluation of recent trends in curriculum and instructional strategies in elementary and secondary schools. *3 sem. hrs.*

EDT 487. CAREER EDUCATION FOR HANDICAPPED: Theory and techniques of job classification, assessment, selection, placement, and activities related to work experience from pre-school to adult. Prerequisite: EDT 480 or 490. *2 sem. hrs.*

EDT 488. STUDENT TEACHING—MH: Full-time supervised and evaluated teaching in an MH classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning MH teacher. Weekly seminar. Prerequisite: EDT 482. EDT 484 recommended. *12 sem. hrs.*

EDT 490. EDUCATING STUDENTS WITH SLD: Study of history, identification, characteristics, learning theories, and curriculum planning appropriate to the education of students with specific learning disabilities. Field and clinical experience (10 and 20 hrs.). Prerequisite: EDT 390. *3 sem. hrs.*

EDT 491. VALUES CLARIFICATION AND MORAL DEVELOPMENT: Examination and evaluation of the theories and techniques of clarifying values and facilitating moral development in students with varied needs and abilities. *3 sem. hrs.*

EDT 494. DIAGNOSTIC TEACHING IN SLD: Instructional strategies, materials, and evaluation techniques for teaching students with learning disabilities. Field experience (20 hrs.). Prerequisite: EDT 490. *3 sem. hrs.*

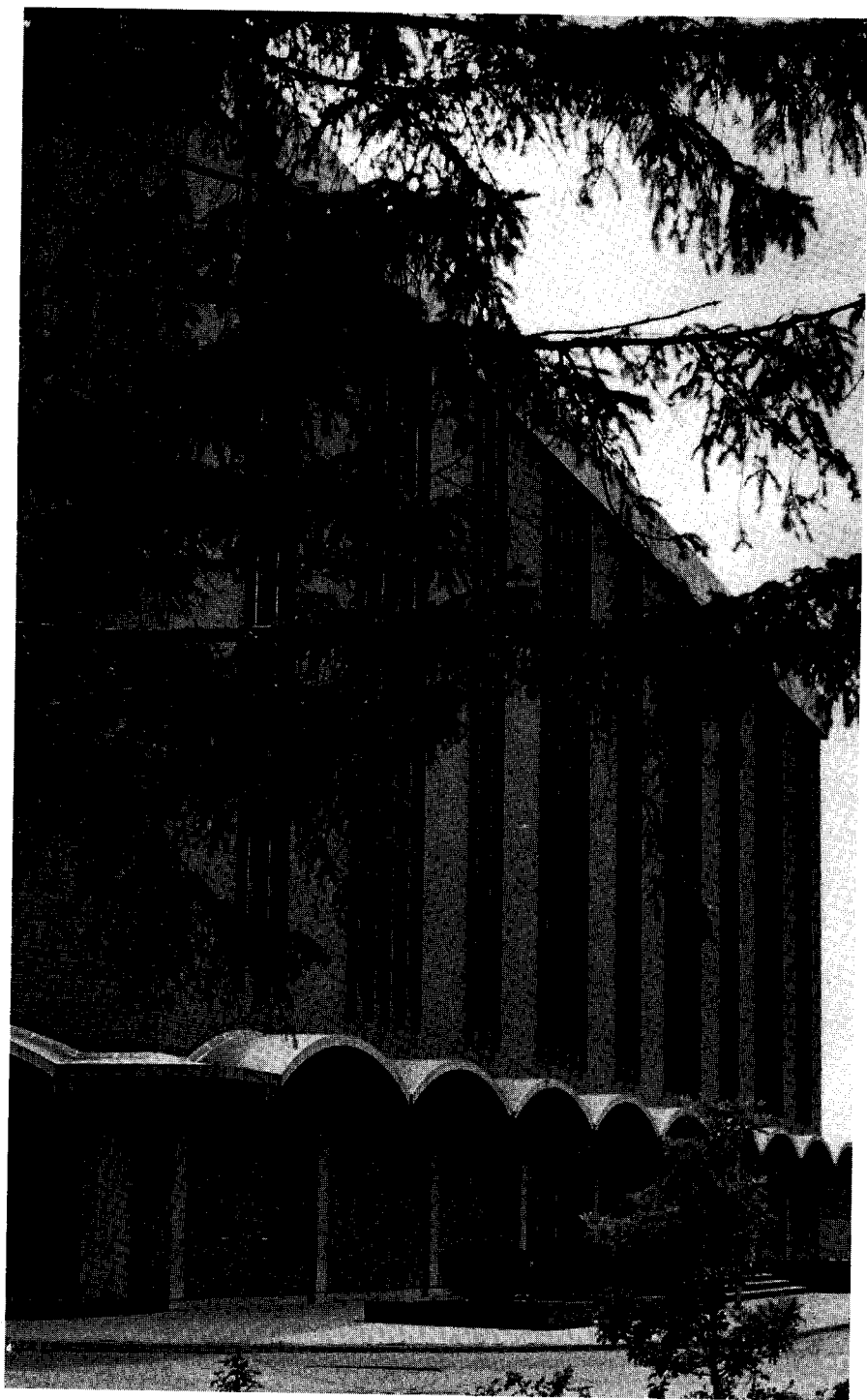
EDT 495. STUDENT TEACHING—SLD: Full-time supervised and evaluated teaching in an SLD classroom. Student is to demonstrate the knowledge, skills, attitudes and values of a beginning SLD teacher. Prerequisites: EDT 394, 494. *12 sem. hrs.*

EDT 498. CREATIVE TEACHING WITH NEWSPAPERS AND OTHER MATERIALS: Innovative uses of newspapers and other inexpensive or free materials to teach mass communication media literacy and enhance the academic skills of students of varied needs and abilities. Dayton newspapers cooperate in implementing this course. *3 sem. hrs.*

EDI 498. HONORS THESIS: Selection design, investigation, and completion of an independent, original research thesis under guidance of a faculty research director. Restricted to students in the University Honors Program with permission of the program director. *3 sem. hrs.*

*General Education course. See Chapter V.





IX School of Engineering

Joseph Lestingi, Dean

Norman S. Phillips, Assistant Dean for Undergraduate Engineering

Robert L. Mott, Associate Dean for Engineering Technology

Ruth L. Kelly, Assistant to the Dean

The School of Engineering has as its purpose the preparation of men and women for professional careers in engineering and in technology in order that they may assume responsible positions of a technical nature in business, industry, education, and government. Of primary concern is the development of professional competencies and philosophies within the various engineering and technology disciplines as well as a broad outlook on the technical and social problems that confront society. Additionally, the engineering and technology programs provide excellent background for other career areas.

The engineering program in each of the fields of chemical, civil, electrical, and mechanical engineering is designed to lead to a bachelor's degree in a four-year period. While students pursue curricula they themselves have chosen according to their fields of interest, they all take certain core courses in mathematics, chemistry, physics, English, computer science, and engineering fundamentals. All of the programs permit additional specialization (as an overload) in minors and concentrations such as aerospace, engineering mechanics, digital systems, structures, and industrial engineering in the School of Engineering and music, languages, and political science in other divisions of the University. Although emphasis is on fundamental theory, continued attention is paid to the solution of practical problems which the student will encounter in the practice of engineering.

As an educational unit of a private university, the School of Engineering strongly emphasizes the counseling of students in order that they may achieve their educational objectives within the engineering program. Each student is assigned a faculty advisor. Academic counseling begins before the students begin their formal course work and continues as they progress toward their objectives.

The engineering technologist is concerned with the application of established scientific and engineering knowledge and methods. Therefore, engineering technology programs consist of courses especially designed to emphasize the use of engineering knowledge. The engineering technologist is usually involved in the design, testing, and sales of products and equipment; the design and management of manufacturing systems; or the supervision of other technologists. The Engineering Technology Division of the School of Engineering has as its objective the collegiate education of young men and women to be competent engineering and scientific technologists. It is the philosophy of the Engineering Technology Division that this objective is best accomplished by (1) providing specialized technical courses that emphasize rational thinking and the application of scientific principles to the practical solution of technological problems, (2) providing courses in mathematics and basic science sufficient to support the technical courses and to prepare the student for future growth, and (3) providing education to prepare students to communicate intelligently and to take their places in society as responsible, humane citizens.

The broader responsibilities of the engineering profession demand that the professional training of an engineer include a significant component of humanities, ethics, and social science studies so that the student will become aware of the urgent problems of society and develop a deeper appreciation of the cultural achievements of humanity. Additionally, such studies provide the proper framework to insure that scientific discoveries and developments by engineers may result in the true advancement of the human race.

TRANSFER STUDENTS

The engineering programs welcome transfer students from both community and senior colleges and work closely with many schools to facilitate transfers from pre-engineering programs. Students may complete the first two years of study in other accredited institutions and transfer to the University of Dayton with little or no loss of credit provided that they have followed programs similar to those prescribed by the University of Dayton School of Engineering.

The School of Engineering has dual degree arrangements with Wilberforce University and the College of Mount St. Joseph (Ohio) as well as curriculum agreements with Thomas More College, Brescia College, and Sinclair Community College.

The engineering technology programs welcome transfer students from associate degree programs in engineering technology who wish to pursue the Bachelor of Science in Engineering Technology. Graduates of two-year associate degree programs in engineering technology should normally expect to undertake at least two additional years of work for the bachelor's degree.

OPTIONAL COOPERATIVE EDUCATION

All students majoring in engineering and engineering technology may participate in the cooperative education program. To be eligible, they must have completed three semesters and have a cumulative grade-point average of not less than 2.3. Those applying for the program will be accepted on the basis of grade-point average, motivation, and attitude. The number of students placed depends on the availability of jobs. Cooperative education offers the student the opportunity to put classroom work into practical use while still in school, resulting in early career identification and greater motivation as well as providing a source of funds. See also Chapter X.

MINORS IN ENGINEERING

The student majoring in chemical, civil, electrical, or mechanical engineering may choose a minor area of technical study. The minors program in the School of Engineering provides an opportunity to specialize in a particular technical sub-area while still pursuing a major program of study in one of the traditional and well recognized engineering disciplines. The minors program was designed in response to the needs of industry and government and to the educational needs and career objectives of students. Election of the minor is optional; it may require additional courses for completion.

The minor is defined as 12 semester hours of work. It can be composed of any number of 1- to 3-semester-hour courses selected from the approved list of minor areas of study, which currently includes the following:

Aerospace Engineering	Environmental Engineering
Automatic Control Systems	Industrial and Systems Engineering
Bio-Engineering ¹	Manufacturing Engineering
Chemical Processing	Materials Engineering
Digital Systems	Mechanics of Engineering Systems
Dynamic Analysis of Mechanical Systems	Structures
Energy Conversion	Thermal Engineering
Engineering Mechanics	

A 15-semester-hour concentration in aerospace engineering is also available to mechanical engineering students. Additional minors from outside the School of Engineering are available in many subject areas.

Students, in consultation with their faculty advisors, normally select the minor or concentration in the second semester of the sophomore year. The minor or concentration is designated on the student's transcript.

¹Although the absence of a bio-engineering supporting department or departmental specialty curriculum prevents the offering of a bio-engineering minor, the courses constitute a preparation for bio-engineering graduate work. "Bio-Engineering preparation" will appear on the student's transcript.

ENGINEERING FIRST-YEAR REQUIREMENTS

Students who are recent high school graduates or who have earned fewer than 15 semester hours of collegiate credit are classified as first-year students and must meet the common engineering program requirements as detailed below. Such credit requirements may be met in a number of ways, including (1) advanced college-level course work at the University of Dayton or other collegiate institutions; (2) advanced placement examinations; (3) departmental examinations during the first term, or work experience equivalent; or (4) taking the prescribed courses as part of the first year. Each request for advanced standing by credit must be initiated by the student in consultation with the engineering faculty counselor, to the office of the dean of engineering.

Engineering students admitted as undeclared will be accepted into departments of their choice on a space-available basis.

REQUIRED FIRST-YEAR PROGRAM^{1,2}

<i>Dept.</i>	<i>No.</i>	<i>Courses</i>	<i>Semester Hours</i>
CHM	123	General Chemistry	4
CPS	132	Computer Programming for Engineering and Science	3
ENG	101-102 or 114 or 198	English Composition I, II ³	6
HST	101 or 102	History of Western Civilization ³	3
MTH	168-169	Analytic Geometry and Calculus I, II	8
MEE	104L	Computer Graphics I ⁴	1
PHL	103	Introduction to Philosophy ³	3
PHY	206	General Physics I ⁴	3
REL	103	Introduction to Religion ³	3
Total first-year requirements			34

¹All first-year students will have orientation sessions.

²Courses may be scheduled in either term.

³See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

⁴Chemical Engineering students may take CHM 124 in the second term and postpone these requirements.

DEGREE REQUIREMENTS

A student enrolls in the curriculum prescribed for the academic year in which he or she is registered as a first-year student at the University of Dayton or elsewhere. If for any reason it is necessary or desirable to change to a subsequently established curriculum, the student must meet all of the requirements of the new curriculum.

The degree Bachelor of Chemical, Civil, Electrical, or Mechanical Engineering— is conferred at commencement if the following requirements have been fulfilled:

1. All prescribed courses outlined in the respective curricula must have been passed with grades of D or better. Although courses may be scheduled in terms other than as listed, all prerequisites and corequisites must be met.
2. All students in the School of Engineering must register under Grade Option 1 for *all* courses in engineering, mathematics, and science except those offered only under Grade Option 2.
3. The cumulative quality-point average in the student's engineering curriculum must be at least 2.0 (C average).
4. The student must have attended the School of Engineering at the University of Dayton during the senior year, carrying at least 30 semester hours.

The semester hours of credit required for graduation in each engineering curriculum administered by the School of Engineering are as follows:

Bachelor of Chemical Engineering	135
Bachelor of Civil Engineering.....	136
Bachelor of Electrical Engineering	134
Bachelor of Mechanical Engineering	135



CHEMICAL ENGINEERING (CME)

Chemical engineering applies the principles of the physical sciences, economics, and human relations to fields that pertain to processes and process equipment in which matter is treated to effect a change in state, energy, content, or composition.

The majority of chemical engineers are involved in the chemical process industries that produce many of the materials and items needed in everyday life. These include medicine, food, fertilizers, plastics, synthetic fibers, petroleum, petrochemicals, ceramics, and pulp and paper products. A chemical engineer may pursue a professional career in many other fields, such as energy conversion, pollution control, medical research, and materials development in aerospace and electronic industries. Chemical engineers are employed in research, development, design, production, sales, consulting, and management positions. They are also found in government and education. Many use a chemical engineering education as a stepping stone to law, medicine, or corporate management.

The curriculum in chemical engineering serves as basic training for positions in these diverse areas of the manufacturing industry or for graduate study leading to advanced degrees. The first part of the chemical engineering curriculum provides a firm foundation in mathematics, physics, and chemistry. The chemistry background is stressed. Courses include general, organic, and physical chemistry. The second part of the curriculum stresses chemical engineering topics such as transport phenomena, thermodynamics, kinetics and reactor design, unit operations, process control, and process design.

Those interested in pursuing careers in medicine or biochemical engineering should consult the department chairperson.

PROGRAM EN1: BACHELOR OF CHEMICAL ENGINEERING (CME)¹

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term</i> ²	<i>2nd Term</i>
Sophomore Year				
CME	203	Material and Energy Balances	3-0-3	
CME	204	Experimental Methods in Chemical Engineering		3-0-3
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
CMM	101	Fundamentals of Oral Communication ³	3-0-3	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MTH	219	Applied Differential Equations		3-0-3
MEE	104L	Computer Graphics I		0-3-1
PHY	207-208	General Physics II, III	3-0-3	3-0-3
—	—	General Education requirement ³		<u>3-0-3</u>
			17	17
Junior Year				
CME	305	Thermodynamics		3-0-3
CME	324-325	Transport Phenomena I, II	3-0-3	3-0-3
CME	326L	Transport Phenomena Laboratory		0-3-1
CME	381	Applied Mathematics for Chemical Engineers	3-0-3	
CHM	303-304	Physical Chemistry	3-3-4	3-3-4
EGM	201	Statics	3-0-3	
ELE	321	Basic Electric Theory		3-0-3
—	—	General Education requirements ³	<u>3-0-3</u>	<u>3-0-3</u>
			16	17

Senior Year			
CME	406	Chemical Reaction Kinetics and Engineering	3-0-3
CME	408A-B	Seminar	1-0-0
CME	411-412	Unit Operations I, II	3-0-3
CME	413L	Unit Operations Laboratory	0-5-2
CME	430-431	Chemical Engineering Design I, II	3-0-3
CME	452	Process Control	3-0-3
CME	453L	Process Control Laboratory	0-5-2
CME	—	Technical elective ⁴	3-0-3
—	—	General Education requirements ³	3-0-3
			17
			17

¹All chemical engineering courses must be taken under Grading Option 1.

²For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

³See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

⁴Select from list approved by the Department of Chemical and Materials Engineering.

FACULTY

James A. Snide, *Chairperson, Department of Chemical and Materials Engineering*

Professors: Eylon, Sandhu, Servais, Snide, Whitney

Associate Professors: Flach, Lee, Lu, Myers, T. Saliba

COURSES OF INSTRUCTION

CME 101. INTRODUCTION TO CHEMICAL ENGINEERING: Introduction to the chemical engineering faculty, facilities, and curriculum; survey of career opportunities in chemical engineering. *No credit.*

CME 203. MATERIAL AND ENERGY BALANCES: Introductory course on the application of mass and energy conservation laws in solving problems typically encountered in chemical process industries. Prerequisites: CHM 123, MTH 168. First term, each year. *3 sem. hrs.*

CME 204. EXPERIMENTAL METHODS IN CHEMICAL ENGINEERING: Introduction to experimental methods, instrumentation, digital data acquisition, data analysis, and report writing. Emphasis on use of digital computer. Prerequisites: CME 203, CHM 124L, CPS 132. Second term, each year. *3 sem. hrs.*

CME 305. THERMODYNAMICS: Development of the fundamental principles of thermodynamics, particularly with respect to chemical engineering processes. Prerequisites: CME 204, MTH 218. *3 sem. hrs.*

CME 324. TRANSPORT PHENOMENA I: Viscosity, shell momentum balances, isothermal equations of change, thermal conductivity, shell energy balances, non-isothermal equations of change, diffusivity, concentration profiles. Prerequisites: CME 204, MTH 219. Corequisite: CME 381. *3 sem. hrs.*

CME 325. TRANSPORT PHENOMENA II: Multidimensional transport, dimensionless parameters, turbulence, and numerical solution methods. Prerequisites: CME 324, 381. Second term, each year. *3 sem. hrs.*

CME 326L. TRANSPORT PHENOMENA LABORATORY: Viscosity, conductivity, diffusion coefficient measurements, velocity, temperature, concentration profiles, engineering instrumentation, and experimental error analysis. Prerequisite: CME 324. Corequisite: CME 325. Second term, each year. *1 sem. hr.*

CME 381. ADVANCED MATHEMATICS FOR CHEMICAL ENGINEERS: Study of analytical and numerical techniques to support upper-level chemical engineering classes. Vector analysis, matrices, differential equations, numerical integration and differentiation, root finding, and curve fitting. Prerequisite: MTH 219. First term, each year. *3 sem. hrs.*

CME 406. CHEMICAL REACTION KINETICS AND ENGINEERING: Chemical kinetics, ideal reactor analysis and design, and heterogeneous catalysis. Prerequisite: CME 305. First term, each year. *3 sem. hrs.*

CME 408A. SEMINAR: Presentation of lectures on contemporary chemical engineering subjects by students, faculty, and engineers in active practice. Registration required of first-term senior students only. First term, each year. *No credit*

CME 408B. SEMINAR: Presentation of lectures on contemporary chemical engineering subjects by students, faculty, and engineers in active practice. Registration required of second-term senior students only. Second term, each year. *1 sem. hr.*

CME 409. INTRODUCTION TO POLYMER ENGINEERING: Introduction to the chemistry, structure, and properties of polymers; polymer synthesis and processing. Prerequisites: CME 305; CHM 303, 314. *3 sem. hrs.*

CME 411. UNIT OPERATIONS I: Staged separation techniques, distillation, evaporation, extraction, adsorption, drying, and filtration. Prerequisites: CME 305, 324. First term, each year. *3 sem. hrs.*

CME 412. UNIT OPERATIONS II: Fluid mechanics, transportation and metering of fluids, agitation and mixing, heat transfer and its applications. Prerequisites: CME 305, 324. Second term, each year. *2 sem. hrs.*

CME 413L. UNIT OPERATIONS LABORATORY: Unit operations equipment and its utilization. Corequisite: CME 411. First term, each year. *2 sem. hrs.*

CME 430. CHEMICAL ENGINEERING DESIGN I: Study of the principles of process development, plant design, and economics. Corequisite: CME 411. First term, each year. *3 sem. hrs.*

CME 431. CHEMICAL ENGINEERING DESIGN II: Application of the principles of process development, plant design, and economics. Prerequisite: CME 430. Second term, each year. *3 sem. hrs.*

CME 452. PROCESS CONTROL: Mathematical models, Laplace transform techniques, and process dynamics. Feedback control systems, hardware, and instrumentation. Introduction to frequency response, advanced techniques, and digital control systems. Prerequisite: CME 381. First term, each year. *3 sem. hrs.*

CME 453L. PROCESS CONTROL LABORATORY: Project-oriented study of process dynamics and control using computer-based data acquisition and control systems. Prerequisites: CME 413L, 452. Second term, each year. *2 sem. hrs.*

CME 499. SPECIAL PROBLEMS IN CHEMICAL ENGINEERING: Particular assignments to be arranged and approved by chairperson of the department. *1-6 sem. hrs.*

CIE

CIVIL ENGINEERING (CIE)

Civil engineering is the profession in which a knowledge of the mathematical and physical sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize the materials and forces of nature economically in improving and protecting the environment and providing structures and facilities for community, industry, and transportation for the progressive well-being of humanity.

Civil engineers, leading users of high technology in wide-ranging applications in both the public and the private sectors, are essential to the continued improvement of society. Civil engineers can enter traditional fields such as construction, bridge and building design and analysis, highway design and traffic control, water treatment and distribution, environmental engineering, hydraulics, and geotechnics. However, their broad education also prepares them for materials engineering, engineering management, and the aerospace and automotive industries. Civil engineering has applications in conceptual and detail design, field operations, computers, and consulting.

The civil engineering curriculum prepares the graduate to function not only within the civil and aerospace communities but also with other engineering disciplines and nontechnical components of society. The first and second years build a sound foundation in mathematics, physics, chemistry, and basic engineering science. The junior and senior years focus on technical subjects related primarily to civil engineering, with electives available to permit either specialization or preparation for graduate study.

Members of the student chapter of the American Society of Civil Engineers have the opportunity to meet regularly with practicing engineers in the Dayton community.

PROGRAM EN2: BACHELOR OF CIVIL ENGINEERING (CIE)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>	<i>3rd Term</i>
Sophomore Year					
CIE	213	Surveying	2-0-2		
CIE	220L	Civil Computation Laboratory	0-3-1		
CHM	124	General Chemistry II	3-3-4		
EGM	201	Statics	3-0-3		
MTH	218	Analytic Geometry and Calculus III	4-0-4		
PHY	207	General Physics II	3-0-3		
CIE	408	Seminar I	1-0-0	1-0-0	
CIE	214	Highway Geometrics		2-0-2	
EGM	202	Dynamics		3-0-3	
EGM	303	Strength of Materials		3-0-3	
MTH	219	Applied Differential Equations		3-0-3	
CMM	101	Fundamentals of Oral Communication ²		3-0-3	
—	—	General Education requirement ²		3-0-3	
CIE	215L	Surveying Field Practice			3-0-3
			17	17	3
Junior Year					
CIE	313	Hydraulics	3-3-4		
CIE	316	Analysis of Determinate Structures	3-0-3		
CIE	320	Civil Engineering Analysis	3-0-3		
CIE	420	Engineering Economics	1-0-1		

GEO	218	Engineering Geology	3-0-3	
PHL	316	Engineering Ethics	3-0-3	
CIE	408	Seminar I	1-0-0	1-0-0
CIE	310L	Civil Engineering Laboratory		0-3-1
CIE	312	Soil Mechanics		3-3-4
CIE	317	Analysis of Indeterminate Structures		3-0-3
CIE	333	Water and Waste Water Collection and Distribution		3-0-3
—	—	Engineering or science elective ³		3-0-3
—	—	General Education requirement ²		3-0-3
			17	17
Senior Year				
CIE	403	Transportation Engineering	3-0-3	
CIE	408	Seminar I	1-0-0	
CIE	411	Design of Steel Structures	3-0-3	
CIE	412	Design of Concrete Structures	3-0-3	
CIE	434	Water and Waste Water Treatment Processes	3-0-3	
CIE	—	Civil engineering electives ³	3-0-3	3-0-3
CIE	428	Seminar II		1-0-1
CIE	450	Civil Engineering Design		3-0-3
HST	467	History of Civil Engineering		3-0-3
—	—	Engineering or science elective ³		3-0-3
—	—	General Education requirement ²		3-0-3
			15	16

¹For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

²See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., GEO 218); others are to be chosen from the listing of approved courses. Consult advisor.

³Select from list approved by the Department of Civil and Environmental Engineering and Engineering Mechanics.

FACULTY

Fred K. Bogner, *Chairperson, Department of Civil and Environmental Engineering and Engineering Mechanics*

Professor Emeritus: Thomson

Distinguished Service Professor: Ryckman

Professors: Bogner, Phillips

Associate Professors: Payne, J. Saliba, G. Shaw, Zoghi

Assistant Professor: Chase

Lecturer: Al-Akkad

Adjunct Professor: Sack

COURSES OF INSTRUCTION

CIE 101. INTRODUCTION TO CIVIL ENGINEERING: Introduction to the civil engineering faculty, facilities, and curriculum; to the career opportunities offered by the civil engineering profession; and to the areas of specialization within civil engineering.

No credit

CIE 213. SURVEYING: Theory of measurements, computation, and instrumentation. Boundary and construction surveys, triangulation, and level net adjustments. Corequisite: MTH 168. First term, each year.

2 sem. hrs.

CIE 214. HIGHWAY GEOMETRICS: Study of circular and spiral curves, vertical curves, grade lines, earthwork and mass diagram, slope and grade stakes, and contour grading. Prerequisite: CIE 213. Second term, each year. *2 sem. hrs.*

CIE 215L. SURVEYING FIELD PRACTICE: Field work and computation in topography, highway surveying, triangulation, level net, celestial observations, evaluation of errors, and preparation of plans. Five eight-hour days a week for three weeks. Prerequisite: CIE 214. Summer, each year. *3 sem. hrs.*

CIE 220L. CIVIL COMPUTATION LABORATORY: Civil engineering applications of minicomputers and microcomputers. Basic and FORTRAN programming of statics, calculus, and physics problems. Word processing, spreadsheet, and database applications. Corequisite: EGM 201. *1 sem. hr.*

CIE 310L. CIVIL ENGINEERING LABORATORY: Experiments and studies relating the engineering properties of certain building materials to their fundamental nature and composition. Prerequisite: EGM 303. Second term, each year. *1 sem. hr.*

CIE 312. SOIL MECHANICS: Principles of soil structures, classification, capillarity, permeability, flow nets, shear strength, consolidation, stress analysis, slope stability, lateral pressure, bearing capacity, and piles. Prerequisites: CIE 313, GEO 218. Corequisite: CIE 312L. Second term, each year. *3 sem. hrs.*

CIE 312L. SOIL MECHANICS LABORATORY: Laboratory tests to evaluate and identify soil properties for engineering purposes. Design problems included. Corequisite: CIE 312. Second term, each year. *1 sem. hr.*

CIE 313. HYDRAULICS: Principles of liquid statics and fluid flow including similitude, measuring devices, channel and pipe flow, turbines, and pumps. Corequisites: CIE 313L, EGM 202. First term, each year. *3 sem. hrs.*

CIE 313L. HYDRAULICS LABORATORY: Laboratory experiments and problems associated with CIE 313. Corequisite: CIE 313. First term, each year. *1 sem. hr.*

CIE 316. ANALYSIS OF DETERMINATE STRUCTURES: Elastic analysis of statically determinate structures; deflections; moment-area theorems; conjugate-beam; virtual work; influence lines; shear center; unsymmetric bending; stresses and strains at a point; theories of failure. Prerequisite: EGM 303. First term, each year. *3 sem. hrs.*

CIE 317. ANALYSIS OF INDETERMINATE STRUCTURES: Elastic analysis of statically indeterminate structures; virtual work; Castigliano's theorems; slope deflection and moment distribution; development of stiffness matrices for use in computer analysis; influence lines, column analogy, limit analysis. Prerequisite: CIE 316. Second term, each year. *3 sem. hrs.*

CIE 320. CIVIL ENGINEERING ANALYSIS: Mathematical modeling and numerical solution of civil engineering problems: basic concepts of probability with emphasis on applications to structures, transportation, and hydraulics problems; application of numerical computational methods in civil engineering problems. Prerequisites: EGM 202, 303; MTH 219. First term, each year. *3 sem. hrs.*

CIE 333. WATER AND WASTE WATER COLLECTION AND DISTRIBUTION: Integrated study of the principles of water sanitation, water supply, stream pollution abatement, and waste water disposal systems. Prerequisites: CIE 313, 313L. Second term, each year. *3 sem. hrs.*

CIE 390. ENVIRONMENTAL POLLUTION CONTROL: Study of environmental pollution problems relating to air, water, and land resources. Causes and effects of pollution; technology for solving the problems. Legal and political considerations. For juniors and seniors other than civil engineering students. Credit may not be applied toward civil engineering degree. Prerequisite: Some knowledge of chemistry.

3 sem. hrs.

CIE 403. TRANSPORTATION ENGINEERING: Fundamentals of transportation engineering, including design, construction, maintenance, and economics of transportation facilities. Prerequisites: CIE 310L, 313.

3 sem. hrs.

CIE 408. SEMINAR I: Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of all civil engineering sophomores, juniors, and nongraduating seniors.

No credit

CIE 411. DESIGN OF STEEL STRUCTURES: Design and behavior of structural steel connections, columns, beams, and beams subjected to tension, compression, bending, shear, torsion, and composite action. Prerequisites: CIE 310L, 317.

3 sem. hrs.

CIE 412. DESIGN OF CONCRETE STRUCTURES: Design and behavior of reinforced concrete slabs, beams, columns, walls, and footings subjected to tension, compression, bending, shear, and torsion. Prerequisites: CIE 310L, 317.

3 sem. hrs.

CIE 420. ENGINEERING ECONOMICS: Basic principles and techniques of economic analysis of engineering projects. Prerequisite: MTH 169.

1 sem. hr.

CIE 421. CONSTRUCTION ENGINEERING: Organization, planning, and control of construction projects, including a study of the use of machinery, economics of equipment, methods, materials, estimates, cost controls, and fundamentals of CPM and PERT. Departmental elective. Corequisite: CIE 403.

3 sem. hrs.

CIE 428. SEMINAR II: Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of civil engineering second-term seniors only. First and second terms, each year.

1 sem. hr.

CIE 434. WATER AND WASTE WATER TREATMENT PROCESSES: Problems of air, water, and land pollution; development and design of public water supply and waste water disposal systems; legal, political, ethical, and moral considerations. Prerequisites: CHM 124, CIE 333. First term, each year.

3 sem. hrs.

CIE 450. CIVIL ENGINEERING DESIGN: Group design of complete projects, drawing on the knowledge acquired in a spectrum of civil engineering subjects. Prerequisites: CIE 312, 403, 411, 412, 420, 434.

3 sem. hrs.

CIE 470. CIE COMPUTER APPLICATIONS: Applications of mainframe, mini, and micro computers to the solution of selected civil engineering problems, including data analysis, plotting, optimization, and simulation. Prerequisite: FORTRAN.

3 sem. hrs.

CIE 499. SPECIAL PROBLEMS IN CIVIL ENGINEERING: Particular assignments to be arranged and approved by chairperson of the department. Departmental elective.

1-6 sem. hrs.

In addition to courses listed above, students may select with departmental approval, electives from the civil and environmental engineering (CIE) and engineering mechanics (EGM) offerings in the 500 series listed in the Graduate Issue of the Bulletin.

ELE

ELECTRICAL ENGINEERING (ELE)

The curriculum of the Department of Electrical Engineering is planned with the primary objective of providing a thorough knowledge of the fundamental laws of electricity and the application of these laws in electrical engineering.

Courses are arranged to offer students an understanding of basic principles and practices common to the various fields of electrical engineering, so that they are prepared to begin specialization in their chosen fields or to pursue advanced study.

Proper attention is directed to an appreciation of the practical economic factors in the electrical world and to the cultural and social qualities necessary for a successful career in the engineering profession.

The curriculum of the Department of Electrical Engineering includes computer hardware and software courses as electives. Sufficient electives are available to permit a computer engineering concentration as part of the Bachelor of Electrical Engineering.

PROGRAM EN3: BACHELOR OF ELECTRICAL ENGINEERING (ELE)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term</i> ¹	<i>2nd Term</i>
Sophomore Year				
EGM	201	Statics	3-0-3	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
CMM	101	Fundamentals of Oral Communication ²	3-0-3	
PHY	207-208	General Physics II, III	3-0-3	3-0-3
ELE	231-232	Circuit Theory I, II	3-0-3	3-0-3
ELE	233	Field Theory I		3-0-3
ELE	235	Digital System Design		3-0-3
EGM	202	Dynamics		3-0-3
MTH	219	Applied Differential Equations		3-0-3
			16	18
Junior Year				
ELE	331	Linear Systems	3-0-3	
ELE	333	Field Theory II	3-0-3	
ELE	335L	Electrical Devices Laboratory	0-2-1	
—	—	General Education requirements ²	6-0-6	
ELE	312-313	Electronics I, II	3-0-3	3-0-3
ELE	314	Fundamentals of Computer Architecture		3-0-3
ELE	336L	Computer Applications Laboratory		0-2-1
ELE	338L	Electronic Devices Laboratory		0-2-1
ELE	340	Discrete Systems		3-0-3
MTH	—	Mathematics elective ³		3-0-3
—	—	Technical elective ³		3-0-3
			16	17
Senior Year				
ELE	413	Communication Engineering	3-0-3	
ELE	431	Energy Conversion	3-0-3	
ELE	435L	Electronic Systems Laboratory	0-2-1	
—	—	Engineering thermodynamics elective ³	3-0-3	
—	—	Technical electives ³	3-0-3	3-0-3
—	—	General Education requirements ²	3-0-3	6-0-6
ELE	432	Automatic Control Systems		3-0-3

ELE	436L	Communications Laboratory	0-2-1
ELE	437L	Energy Conversion and Control Laboratory	0-2-1
—	—	Engineering management/economics elective ³	3-0-3
			17
			16

¹For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

²See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

³Select from list approved by the Department of Electrical Engineering.

FACULTY

Donald L. Moon, *Chairperson*

Distinguished Service Professor: Schmidt

Professors: Karim, Moon, Rogers, Thiele

Associate Professors: Evers, Pasala, Scarpino, Westerkamp, Williamson

Assistant Professors: Daniels, Duncan, Gauder, Hardie, Kee, Penno, Tuthill

Adjunct Assistant Professors: Champagne, Hoeffel

COURSES OF INSTRUCTION

ELE 101. INTRODUCTION TO ELECTRICAL ENGINEERING: Introduction to electrical engineering faculty, facilities, and curriculum, to career opportunities in electrical engineering, and to its areas of specialization. *No credit*

ELE 231. CIRCUIT THEORY I: Principles of linear circuit theory. Analysis of resistive circuits having constant or time varying sources. Analysis of transient and steady state behavior of circuits containing R, L, and C. Corequisite: MTH 169. *3 sem. hrs.*

ELE 232. CIRCUIT THEORY II: Sinusoidal analysis: sinusoidal forcing function, phasor concept, steady-state response, resonance, average power and rms values, magnetically coupled circuits, polyphase circuits. Prerequisite: ELE 231. *3 sem. hrs.*

ELE 233. FIELD THEORY I: Vector calculus, static electric fields, conductors, dielectric materials, boundary conditions, field mapping, steady electric currents and their magnetic fields, motion of charged particles. Prerequisite: MTH 218. *3 sem. hrs.*

ELE 235. DIGITAL SYSTEM DESIGN: Logical functions, logic circuits, Boolean algebra, combinational circuits, flip-flops, registers, counters, adders, memories. Prerequisite: ELE 231. *3 sem. hrs.*

ELE 312. ENGINEERING ELECTRONICS I: A first course on the terminal behavior of electron devices. Qualitative physical description, volt ampere curves, graphical solutions. Formulation of incremental and piecewise linear models. Analysis of simple amplifier circuits. Prerequisite: ELE 232 or 321. *3 sem. hrs.*

ELE 313. ENGINEERING ELECTRONICS II: Cascaded amplifiers, feedback amplifiers, linear integrated circuits; steady state and transient response. Oscillators. Prerequisites: ELE 312, 331. *3 sem. hrs.*

ELE 314. FUNDAMENTALS OF COMPUTER ARCHITECTURE: Representation of data and instructions. Methods of transforming information. Memory devices and structures. Interfacing to external devices. Applications and practical problems. Prerequisites: ELE 235, 312. *3 sem. hrs.*

ELE 321. BASIC ELECTRIC THEORY: Mathematical design of passive and active electric circuits using time domain and frequency domain methods. Practical areas represented include instrumentation and power, telecommunication, and control circuits. For mechanical, civil, chemical, and advanced-standing science or engineering students. Prerequisites: MTH 218, PHY 207 or equivalent. *3 sem. hrs.*

ELE 322. BASIC ELECTRONICS: Introduction to electronics devices, circuits, and systems. Design, analysis, and applications of amplifiers and other types of electronic elements. For chemical, civil, mechanical, and advanced-standing science or engineering students. Prerequisites: ELE 232, 321 or equivalent. *3 sem. hrs.*

ELE 331. LINEAR SYSTEMS: Mathematical framework associated with analysis of linear systems. Signal representation by orthogonal functions, convolution, Fourier analysis and the Laplace transform. Prerequisites: ELE 232, MTH 219. *3 sem. hrs.*

ELE 333. FIELD THEORY II: Magnetic fields, forces, energy storage; theory of magnetic materials, engineering materials, magnetic circuits; inductance, practical inductors; time varying fields; Maxwell's equations. Prerequisite: ELE 233. *3 sem. hrs.*

ELE 335L. ELECTRICAL DEVICES LABORATORY: Experimental situations stressing familiarization with electrical engineering concepts, hardware, devices, instrumentation, and techniques. Corequisite: ELE 232. *1 sem. hr.*

ELE 336L. COMPUTER APPLICATIONS LABORATORY: Experimentation using the computer as a tool for engineering design, simulation of circuits and systems, experimental control, data analysis, and report generation. Corequisite: ELE 331. *1 sem. hr.*

ELE 338L. ELECTRONIC DEVICES LABORATORY: Experiments dealing with electronic devices: diodes, bipolar junction transistors, field effect transistors and op amps. Prerequisite: ELE 312. *1 sem. hr.*

ELE 340. DISCRETE SYSTEMS: Discrete signal processing, sampling and reconstruction, digital filtering. Discrete Fourier transform and z transform analysis of signals and systems. Prerequisites: ELE 235, 331. *3 sem. hrs.*

ELE 413. COMMUNICATION ENGINEERING: Amplitude, angle, and pulse modulation systems. Generation, detection, and analysis of modulated signals. Power and bandwidth considerations. Introduction to information theory. Prerequisite: ELE 340. *3 sem. hrs.*

ELE 415. MICROWAVE ENGINEERING: Design-oriented course in microwave engineering. Communication, radar, industrial, scientific, and measurement applications described. Operating principles and specifications of current building-block subsystems investigated in sufficient depth to enable engineering design of microwave systems. Departmental elective. Prerequisites: ELE 313, 333. *3 sem. hrs.*

ELE 431. ENERGY CONVERSION: Properties and theory of magnetic circuits as applied to electro-mechanical energy conversion. Nonlinear magnetic devices. Introduction to rotating machine analysis. Field and circuit concepts of rotating machines. Rotating fields. Direct current, synchronous, and induction machines. Prerequisites: ELE 331, 333. *3 sem. hrs.*

ELE 432. AUTOMATIC CONTROL SYSTEMS: Open- and closed-loop systems, mathematical models for control systems, representation of feedback control systems, performance characteristics, stability analysis. Prerequisite: ELE 331. Corequisite: ELE 431. *3 sem. hrs.*

ELE 435L. ELECTRONIC SYSTEMS LABORATORY: Passive and active filters, automated data collection, analysis, and electronics systems design. Prerequisites: ELE 313, 338L. *1 sem. hr.*

ELE 436L. COMMUNICATIONS LABORATORY: Modulation, detection, communication electronics, communication systems design. Prerequisites: ELE 413, 435L or permission of instructor. *1 sem. hr.*

ELE 437L. ENERGY CONVERSION AND CONTROL LABORATORY: Experiments dealing with operating and performance characteristics of electromechanical energy converters, application of electronic control to power machinery, and operating and performance characteristics of automatic control systems. Prerequisite: ELE 431 or permission of instructor. *1 sem. hr.*

ELE 438L. PROJECTS LABORATORY: Project-oriented laboratory applying engineering skills in the design, development, and demonstration of electrical and electronic devices. Departmental elective. Prerequisite: Permission of project advisor. *1-3 sem. hrs.*

ELE 440. PHYSICAL ELECTRONICS: Introduction to wave mechanics; electron ballistics; theory of metals and semiconductors; electron emission, space charge flow; modern electron devices. Departmental elective. Prerequisites: MTH 219, PHY 208. *3 sem. hrs.*

ELE 441. INTEGRATED CIRCUIT ELECTRONICS: Integrated circuit biasing, multi-stage differential and analog power amplication, linear waveform handling and digital logic and switching circuits. Departmental elective. Prerequisite: ELE 313. *3 sem. hrs.*

ELE 442. ENGINEERING ELECTROMAGNETICS: Processing Maxwell's equations and applying the predictions to the analysis and design of engineering systems that make use of electromagnetic energy. ELF through optical frequencies; propagation, radiation, interactions with matter, guided waves, antenna fundamentals. Departmental elective. Prerequisite: ELE 333. *3 sem. hrs.*

ELE 443. INTRODUCTION TO ELECTRO-OPTICS: Introductory overview of the field, starting with Maxwell's equations and leading to lasers, holography, and other timely applications. Departmental elective. Prerequisite: ELE 333. *3 sem. hrs.*

ELE 444. ADVANCED DIGITAL DESIGN: Systems approach to digital design. Structured top-down development process using simple and complex logic modules from various logic families. Application of microcomputer or controller as a flexible logic device. Practical design problems with team and individual projects. Departmental elective. Prerequisites: ELE 314, 340. *3 sem. hrs.*

ELE 445. SIGNAL PROCESSING: Signal conditioning, digital signal processing, and data processing. Topics include transducers, high gain amplifier design, digital filtering, and spectrum estimation. Specialized application determined by instructor. Prerequisite: ELE 340. *3 sem. hrs.*

ELE 446. MICROELECTRONIC SYSTEMS DESIGN: Basic integrated circuit design concepts, system layout, application of design methodology, the fabrication process, manufacturing limitations of the design process, and CAD/CAE utilization to realize the design process. Departmental elective. Prerequisites: ELE 313, 340. *3 sem. hrs.*

ELE 499. SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING: Particular assignments to be arranged and approved by chairperson of department. Departmental elective. *1-6 sem. hrs.*

MEE

MECHANICAL ENGINEERING (MEE)

The Department of Mechanical and Aerospace Engineering offers a Bachelor of Mechanical Engineering with sufficient elective courses to permit a concentration in aerospace or minors in several other areas. The department offers master's and doctoral degrees in both mechanical engineering and aerospace engineering.

Mechanical engineering is an active, versatile, creative branch of engineering. Mechanical engineers conceive, design, and plan a wide variety of devices, machines, and systems and direct their manufacture, distribution, and operation. They are concerned with energy—its transformation, transmission, and utilization.

The field of mechanical engineering is so broad that several specialized branches have grown from it. Mechanical engineers engage in all the engineering functions—creative design, applied research, development, application and sales, and management. Mechanical engineering is also an excellent professional base for interdisciplinary activities.

Mechanical engineers apply scientific and engineering principles and methods to the solution of contemporary human problems. Of major current interest are the application of computer technology to manufacturing automation, of super computers to computational fluid dynamics, and of lasers to detailed flow measurement in jet engines. Because research in association with Wright-Patterson Air Force Base is a major motivation for this department, a concentration in aerospace engineering is an optional part of the mechanical engineering degree.

The mechanical engineer's widely diversified professional curriculum gives the graduate a broad base for further development. A mechanical engineering background forms the basis for training in many other fields such as law, medicine, and business management.

PROGRAM EN4: BACHELOR OF MECHANICAL ENGINEERING (MEE)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
Sophomore Year				
CMM	101	Fundamentals of Oral Communication ²	3-0-3	
EGM	201	Statics	3-0-3	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MEE	227L	Computer Graphics II	0-3-1	
—	—	General Education requirement ²	3-0-3	
PHY	207-208	General Physics II, III	3-0-3	3-0-3
EGM	202	Dynamics		3-0-3
EGM	303	Strength of Materials		3-0-3
MTH	219	Applied Differential Equations		3-0-3
MEE	301	Thermodynamics I		3-0-3
MEE	340L	Engineering Experimentation Laboratory		0-4-2
			17	17
Junior Year				
MEE	302	Thermodynamics II	3-0-3	
MEE	308	Fluid Mechanics	3-0-3	
MEE	310L	Machining Laboratory	0-3-1	
MEE	312	Engineering Materials I	3-3-4	

MEE	316	Mechanical Engineering Analysis	3-0-3	
MEE	414B	Seminar	1-0-0	1-0-0
—	—	General Education requirements ²	3-0-3	3-0-3
ELE	321	Basic Electric Theory		3-0-3
MEE	313	Engineering Materials II		2-0-2
MEE	319	Mechanical Vibrations		3-0-3
MEE	321	Theory of Machines		3-0-3
MEE	410	Heat Transfer		3-0-3
			17	17
Senior Year				
ELE	322	Basic Electronics	3-0-3	
MEE	330	Engineering Economics	1-0-1	
MEE	423L	Mechanical Engineering Laboratory	0-9-3	
—	—	Design elective ³	3-3-4	
—	—	Controls elective ⁴	3-0-3	
—	—	Technical electives ⁵	3-0-3	3-0-3
MEE	414	Seminar	1-0-0	1-0-1
MEE	—	Mechanical engineering electives		6-0-6
—	—	Ethics elective ⁶		3-0-3
—	—	General Education requirement ²		3-0-3
			17	16

¹For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

²See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

³Either MEE 427, Mechanical Design I, or MEE 425, Aerospace Design.

⁴Either MEE 435, Feedback Control Systems, or MEE 408, Aircraft Performance and Control.

⁵Technical electives to be selected from engineering, mathematics, or science.

⁶Either PHL 316, Engineering Ethics, or REL 369, Christian Ethics and Engineering.

FACULTY

To Be Announced, *Chairperson, Department of Mechanical and Aerospace Engineering*
Professors: Ballal, Boehman, Brockman, Chuang, Doyle, Eimermacher, Jain,

Lestingi, Sargent, Schauer, Wurst

Associate Professors: Endres, Hallinan, Harmer, Miller, Petrykowski, Taylor

Assistant Professors: Brendel, Kelly

Adjunct Professors: Shine, Weeks

Adjunct Associate Professors: Wurstner

Laboratory Instructor: Keehnen

COURSES OF INSTRUCTION

MEE 101. INTRODUCTION TO MECHANICAL ENGINEERING: Weekly meeting of first-semester first-year mechanical engineering students. Presentation of mechanical engineering program and discussion of student options. *No credit*

MEE 104L. COMPUTER GRAPHICS I: Fundamentals of engineering graphics and the part that graphical communication plays in engineering. Introduction to computer aided design (CAD). *1 sem. hr.*

MEE 227L. COMPUTER GRAPHICS II: Advanced engineering graphics and graphical communication in engineering; introduction to project design and engineering
Prerequisite: MEE 104L. *1 sem. hr.*

MEE 301. THERMODYNAMICS I: Concepts, definitions, and laws of thermodynamics. Properties of pure substances, introduction to use of thermodynamic property tables and equations of state. Applications of the laws of thermodynamics to processes, heat engines, and control volumes. Prerequisite: MTH 218. *3 sem. hrs.*

MEE 302. THERMODYNAMICS II: Gas and two-phase heating, cooling, power cycles. Gas mixtures and air conditioning. First and second law analysis of reacting systems. Chemical equilibrium. High velocity nozzle and diffuser flow. Prerequisite: MEE 301. *3 sem. hrs.*

MEE 308. FLUID MECHANICS: Laws and theory relative to incompressible fluids, continuity, momentum, and energy relations in flow situations; internal and external flow in laminar and turbulent regimes. Prerequisites: MEE 301, MTH 219. *3 sem. hrs.*

MEE 310L. MACHINING LABORATORY: Study of metal removal processes and machine tools such as lathes, grinders, milling machines, shapers, and planers; theory and practice of precision dimensional metrology. Three hours of laboratory. Prerequisites: CHM 123, MEE 104L, PHY 206. *1 sem. hr.*

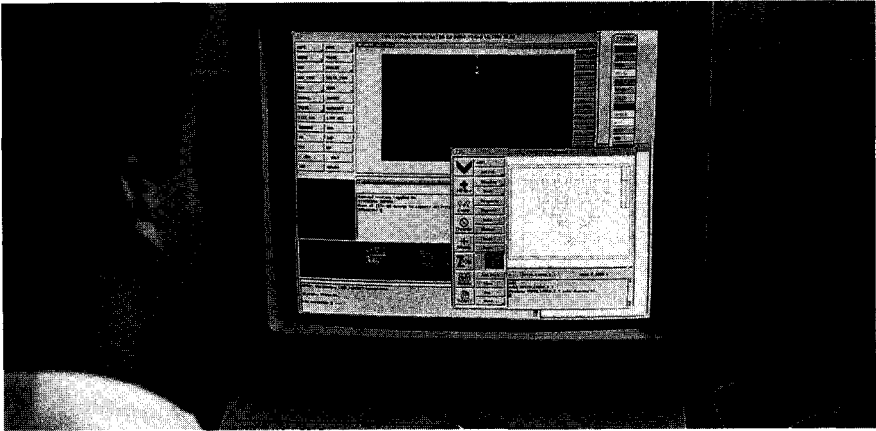
MEE 312. ENGINEERING MATERIALS I: Principles of the mechanical behavior of metallic and ceramic materials. Structure of solids, deformation of solid, diffusion in solids, strengthening mechanisms in materials, equilibrium and non-equilibrium processes in ferrous and nonferrous metals and ceramic materials. Introduction to fracture mechanics. Prerequisites: EGM 303, MEE 301, PHY 208, or permission of instructor. Corequisite: MEE 312L. *3 sem. hrs.*

MEE 312L. MATERIALS LABORATORY: Experiments illustrating the behavior of metallic, ceramic, and polymeric materials. Strengthening mechanisms, crystallization, metallography, corrosion, thermal processing. Corequisite: MEE 312. *1 sem. hr.*

MEE 313. ENGINEERING MATERIALS II: Chemistry and properties of high polymers, composite materials, electrical properties of conductors and semiconductors, dielectric and magnetic properties of materials, optical and thermal properties of materials, and corrosion science. Prerequisites: EGM 303, MEE 301, 312, PHY 208, or permission of instructor. *2 sem. hrs.*

MEE 316. MECHANICAL ENGINEERING ANALYSIS: Problem formulation and mathematical modeling of engineering systems and control volumes. Development of computer skills; analysis and generalization of system responses. Introduction to vibration and heat transfer theory and to the application of Fourier series and partial differential equations to engineering problems. Prerequisites: CPS 132, MTH 219, MEE 301, PHY 207. *3 sem. hrs.*

MEE 319. MECHANICAL VIBRATIONS: Undamped and damped, free and forced vibrations of single degree of freedom translational and rotational systems; vibration isolation and absorption; multi-degree of freedom systems, continuous system, transient vibration, approximate and numerical solution. Prerequisites: CPS 132, EGM 202, MTH 219. Corequisite: EGM 303. *3 sem. hrs.*



MEE 321. THEORY OF MACHINES: Applications and design of mechanisms; use of graphical and analytical techniques to the kinematic and dynamic analysis and synthesis of machines. Analysis and design of cams, gears, and gear trains. Balancing of rotating masses. Prerequisite: EGM 202. *3 sem. hrs.*

MEE 330. ENGINEERING ECONOMICS: Basic principles and techniques of economic analysis of engineering projects. Prerequisite: MTH 169. *1 sem. hr.*

MEE 340L. ENGINEERING EXPERIMENTATION LABORATORY: Design of experiments; use of instrumentation; data acquisition and processing; error and statistical analysis; comparison to theory; oral presentation; technical report writing. Measurement of basic engineering properties including temperature, pressure, flow rate, power, frequency displacements, friction, stress, voltage. Prerequisites: ENG 102, PHY 207. Corequisite: MTH 219. *2 sem. hrs.*

MEE 401. AERODYNAMICS: Fundamentals of steady incompressible, inviscid aerodynamic flows over wings. Emphasis on force and moment determination for air foil and finite wings. Prerequisite: MEE 308. *3 sem. hrs.*

MEE 402. ENERGY CONVERSION SYSTEMS: Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; solar energy and alternative energy concepts; nuclear power plants, steam power plants, industrial gas turbines, and total energy power plants; energy management and conservation techniques. Prerequisite: MEE 302 or CME 305 or MCT 232. *3 sem. hrs.*

MEE 408. AIRCRAFT PERFORMANCE AND CONTROL: Elementary development of aircraft equations of motion; performance in level flight; climbing and descending performance; turning performance, takeoff and landing performance; static stability and control in all three axes. Prerequisite: MEE 401. *3 sem. hrs.*

MEE 409. AEROSPACE STRUCTURES: Structural properties of wing and fuselage sections. Nonsymmetrical bending of skin-stringer wing sections. Shear stresses in thin-walled and skin-stringer multiple-celled sections. Deflection by energy methods. Introduction to finite element stiffness method. Prerequisite: EGM 303. *3 sem. hrs.*

MEE 410. HEAT TRANSFER: Fundamentals of conduction, convection, and thermal radiation energy transfer. Conduction of heat in steady and unsteady state. Principles of boundary layer theory applicable to free and forced convection heat transfer for internal and external flows. Radiation analysis with and without convection and conduction. Prerequisites: MEE 308, 316. *3 sem. hrs.*

MEE 413. PROPULSION: Principles of propulsive devices, aerothermodynamics, diffuser and nozzle flow, energy transfer in turbo-machinery; turbojet, turbo-fan, prop-fan engines; turbo-prop and turboshaft engines. RAM and SCRAM jet analysis and a brief introduction to related materials and air frame-propulsion interaction. Prerequisite: MEE 418. *3 sem. hrs.*

MEE 414A. SEMINAR: Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice. Registration required of all students in their last term prior to graduation. *1 sem. hr.*

MEE 414B. SEMINAR: Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice. Registration required of all junior and senior students not registered in MEE 414A. *No credit*

MEE 417. INTERNAL COMBUSTION ENGINES: Combustion and energy release processes. Applications to spark and compression ignition, thermal jet, rocket, and gas turbine engines. Emphasis on air pollution problems caused by internal combustion engines. Idealized and actual cycles studied in preparation for laboratory testing of I. C. engines. Prerequisite: MEE 301 or permission of instructor. *3 sem. hrs.*

MEE 418. GAS DYNAMICS: Application of the basic thermodynamic and fluid motion laws to the solution of engineering problems in fluid mechanics. Use of differential and integral equations for internal and external flow of compressible fluids with friction and heat transfer. Isentropic flow; adiabatic flow; normal and oblique shocks; Prandtl-Meyer flow; Fanno and Rayleigh line flow. Prerequisites: MEE 308, 316. *3 sem. hrs.*

MEE 420. HEATING AND AIR CONDITIONING: Theory and methods of maintaining comfortable industrial and residential environments. Psychrometrics; effects of solar radiation; heat transmission through solid boundaries and transparent materials; heating and cooling load calculations; sizing of equipment; energy conservation and management concepts. Corequisite: MEE 410 or permission of instructor. *3 sem. hrs.*

MEE 423L. MECHANICAL ENGINEERING LABORATORY: Three-hour laboratory session and three-hour out-of-class group session each week. Analysis, modeling, testing, and oral and written presentation of studies in power generation, heat transfer, and fluid dynamic systems. Prerequisites: MEE 302, 308, 340L, 410. *3 sem. hrs.*

MEE 424L. AEROSPACE ENGINEERING LABORATORY: Analysis, modeling, testing, and oral and written presentation of studies in aerodynamics; propulsion, heat transfer, and controls. Three-hour laboratory session and three-hour out-of-class group session each week. Prerequisites: MEE 302, 308, 340L, 410. *3 sem. hrs.*

MEE 425. AEROSPACE DESIGN: Preliminary design of aircraft, including layout, weight and size estimates, wing section and planform selection, determination of configuration aerodynamics, engine and inlet sizing, corrections to propulsion data, refined fuel estimates, weight and balance, stability and control, and performance determination. Prerequisites: MEE 408, 409, 413. Corequisite: MEE 425L. *3 sem. hrs.*

MEE 425L. AEROSPACE DESIGN LABORATORY: Laboratory to accompany MEE 425. Prerequisites: MEE 408, 409, 413. Corequisite: MEE 425. 1 sem. hrs.

MEE 427. MECHANICAL DESIGN I: Stress and deflection analysis of machine components; theories of failure; fatigue failure of metals; design and analysis of mechanical components such as spur gears, shafts, springs, fasteners. Prerequisites: EGM 303, MEE 321. Corequisite: MEE 427L. 3 sem. hrs.

MEE 427L. MECHANICAL DESIGN LABORATORY I: Design projects applying principles covered in MEE 427. Solution of complex problems with emphasis on synthesis and design of mechanical systems. Corequisite: MEE 427. 1 sem. hrs.

MEE 428. MECHANICAL DESIGN II: Advanced topics in stress and deflection analysis; analysis and design of mechanical elements such as gears, journal and ball bearings, belts, brakes, and clutches; principles of fracture mechanics; failure analysis; machinery construction principles. Contemporary design methods and issues associated with the product development cycle. Prerequisite: MEE 427. 3 sem. hrs.

MEE 430. MECHANICS OF MANUFACTURING PROCESSES: Casting processes, design of castings, and casting defects; metal working processes, such as extrusion, forging, rolling, and drawing, and principles of die design; metal shearing and forming; welding processes, design of weldments, and study of microstructure in heat affected zone; powder metallurgy and design principles for P/M parts; metal removal processes. Prerequisites: EGM 303, MEE 310L, 312. 3 sem. hrs.

MEE 435. FEEDBACK CONTROL SYSTEMS: Analyses of automatic feedback control systems using time domain solutions, Laplace transforms, block diagrams, transfer functions, characteristic equations, stability criteria, and control actions. System performance based on Nyquist, Bode, and root-locus with system compensation. Prerequisite: MEE 319. 3 sem. hrs.

MEE 436. VEHICLE PERFORMANCE ANALYSIS: Ground, air, water, space vehicles. Development of force, moment, and kinematic equations. Advanced applications including stability, control, performance evaluations. Vehicle simulation. Analog computation. Prerequisite: MEE 308 or permission of instructor. 3 sem. hrs.

MEE 438. ROBOTICS AND FLEXIBLE MANUFACTURING: Overview of industrial robots; physical configuration, operation, and programming of robots; actuators, drive mechanisms, sensors, vision systems, controls, and control methods for robots; economic considerations; and automated factory concept. Prerequisites: MEE 313, 321. 3 sem. hrs.

MEE 499. SPECIAL PROBLEMS IN MECHANICAL AND AEROSPACE ENGINEERING: Particular assignments to be arranged and approved by departmental chairperson. 1-6 sem. hrs.

In addition to the courses listed above, students may select as undergraduate electives mechanical or aerospace engineering (MEE or AEE) courses from the 500 series listed in the Graduate Issue of the Bulletin.

EGR

SERVICE (EGR, EGM, ISE) AND INTERDISCIPLINARY (ENI) COURSES FOR ENGINEERING

COURSES OF INSTRUCTION—EGR

EGR 102. SEMINAR FOR UNDECLARED STUDENTS: A seminar to acquaint the student with the University and the departments of the School of Engineering.
No credit

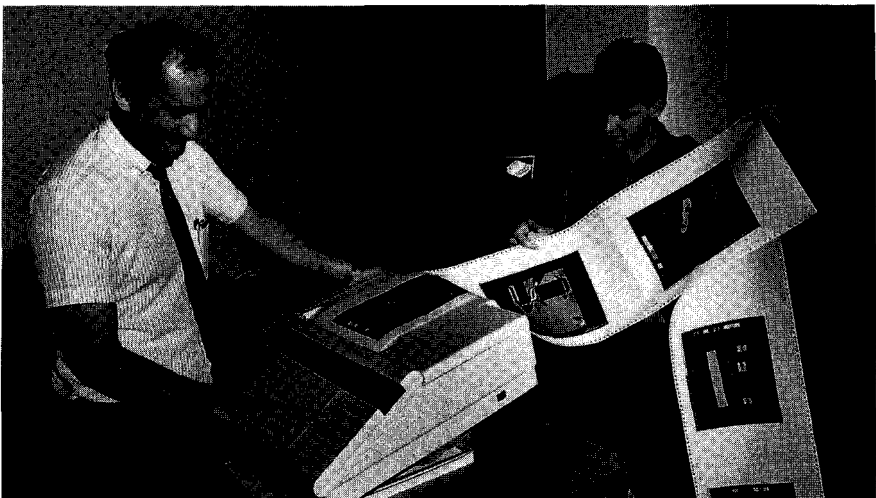
*EGR 201. TECHNOLOGY AND THE ENGINEERING METHOD: Survey of the fields of engineering and their tasks and tools. Development of simplified engineering skills with application to case problems. Review of contemporary technology. Exposure to an engineering design and laboratory experience. Not for engineering and/or technology majors.
3 sem. hrs.

EGR 320. SYSTEMS DESIGN—HONORS: Systems-design experience to emphasize the basic problem-solving approach and philosophy of engineering for students of varied backgrounds. By permission only.
3 sem. hrs.

EGR 498. HONORS THESIS: Selection, design, investigation, and completion of an independent, original research study resulting in a document prepared for submission as a potential publication and a completed undergraduate thesis. Restricted to students in University Honors Program.
3-6 sem. hrs.

EGR 499. SPECIAL PROBLEMS IN ENGINEERING: Particular assignments to be arranged and approved by the dean of engineering.
1-6 sem. hrs.

*General Education course. See Chapter V.



COURSES OF INSTRUCTION—EGM

Engineering mechanics (EGM) courses are taught and administered by the Department of Civil and Environmental Engineering and Engineering Mechanics.

EGM 201. STATICS: The principles of mechanics; force systems, free body diagrams, resultants and equilibrium, centroids and centers of gravity; application to trusses, frames, machines, and beams; friction; moments of inertia. Corequisite: MTH 169.

3 sem. hrs.

EGM 202. DYNAMICS: Kinematics, including translation, rotation, plane motion, and relative motion; kinetics of particles and bodies by the methods of force-mass-acceleration, work-energy, and impulse-momentum. Prerequisite: EGM 201.

3 sem. hrs.

EGM 303. STRENGTH OF MATERIALS: The study of stresses, strains, and deflections in tension, compression, shear, flexure, and torsion; shear and moment diagrams; analysis of stresses and strains at a point; Mohr's circle; analysis of columns. Prerequisite: EGM 201. Each term.

3 sem. hrs.

EGM 304. ADVANCED STRENGTH OF MATERIALS: Stresses and strains at a point; shear center; unsymmetrical bending; curved beams; flat plates; torsion of noncircular bars; beams on elastic support; buckling. Prerequisite: EGM 303. First and second terms each year.

3 sem. hrs.

EGM 445. FINITE ELEMENT APPLICATIONS: Introduction to the fundamentals of the finite element method; modeling of engineering systems and elements using computer-aided engineering. Prerequisites: EGM 303, MTH 219.

3 sem. hrs.

EGM 499. SPECIAL PROBLEMS IN ENGINEERING MECHANICS: Particular assignments to be arranged and approved by chairperson of the department.

1-6 sem. hrs.

COURSES OF INSTRUCTION—ISE

Industrial and systems engineering (ISE) courses are taught and administered by the Department of Engineering Management and Systems.

ISE 313. ENGINEERING LAW: Legal principles applied to engineering.

3 sem. hrs.

ISE 369. PROBABILITY AND STATISTICS FOR ENGINEERS: Conceptual development of probability and statistics with engineering applications. Random variables, probability distributions, Bayes theorem, central limit theorem, population and sample moments, point and interval estimates, hypothesis testing, regression analysis. Prerequisite: MTH 218.

3 sem. hrs.

ISE 401. ENGINEERING ECONOMY: Basic principles and techniques of economic analysis of engineering projects. Time value of money, short- and long-term investments, replacement analysis, depreciation methods, cost allocation, and measures of cost effectiveness. Self-paced instruction. Prerequisite: MTH 218.

1-3 sem. hrs.

ISE 402. ECONOMIC DECISION ANALYSIS FOR ENGINEERS: Introduction to the models and methods of economic decision analysis as they relate to engineering decisions. Fundamental economic concepts, cost estimates, interest and time value of money, comparison of alternatives, before- and after-tax analysis, analysis of public activities, decision making under risk and uncertainty, break-even analysis, linear programming models. Prerequisite: MTH 218.

3 sem. hrs.

ISE 421. RELIABILITY AND MAINTAINABILITY: Application of probability and statistical theory to engineering reliability design and analysis; reliability of components and assemblies; design of systems for reliability and maintainability. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 423. QUALITY ASSURANCE: Principles of statistical quality control. Application of attributes and variable acceptance sampling plans; control charts; design of quality control systems and procedures. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 428. DESIGN AND ANALYSIS OF ENGINEERING EXPERIMENTS: Application of statistical methods to engineering experimentation; analysis of experimental response through statistical methods. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 451. PRODUCTION AND INVENTORY PLANNING AND CONTROL: Analysis and design of systems of personnel and machines for production processes. Forecasting, scheduling, production and inventory control. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 452-453. OPERATIONS RESEARCH I AND II: Applications and elementary theory of selected topics such as linear programming, transportation and assignment problems, network analysis, game theory, nonlinear programming, queueing theory, and Markov processes. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs. each*

ISE 455. PRINCIPLES OF SYSTEMS: Basic concepts of structure in dynamic systems; starting point for systems approach to dynamic systems in multidisciplinary courses in urban, ecological, corporate, or other social systems. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 499. SPECIAL PROBLEMS IN SYSTEMS: Particular assignments to be arranged and approved. *1-6 sem. hrs.*

COURSES OF INSTRUCTION—ENI

Information on engineering interdisciplinary (ENI) courses is available in the Office of the Dean of the School of Engineering.

ENI 299. SPECIAL PROBLEMS: Special problems courses at an introductory level relative to engineering problems and activities. To be arranged and approved by the dean. *1-6 sem. hrs.*

ENI 451. INTRODUCTION TO PUBLIC POLICY PLANNING: Introduction to public policy and program planning, the role of engineering in public policy formulation, systems approaches to complex decision making, introduction to interpretive structural modeling and its policy-oriented uses. *3 sem. hrs.*

ENI 455. SYSTEMS MODELING I: Introduction to the modeling of social systems, emphasizing feedback loops and their behavior; development of methods for understanding mechanisms underlying growth, stagnation, and cyclical fluctuations; formulation of models for industrial, economic, social, and ecological systems; laboratory digital simulation. *3 sem. hrs.*

ENI 456. SYSTEMS MODELING II: An individual or group project in guided research with emphasis on modeling of economic, industrial, urban, ecological, and world systems. *3 sem. hrs.*

ENGINEERING TECHNOLOGY

The Engineering Technology programs lead to the Bachelor of Science in Engineering Technology in any of six technical areas. The four-year programs emphasize the application of engineering principles and are designed to provide excellent preparation in the major field as well as sufficient breadth in both technical and nontechnical areas so that the graduate may work effectively with persons of varied educational backgrounds. The significant number of technical electives permits the student to explore technical areas other than the major and thus to become more versatile. Graduates find interesting career positions involving the manufacturing of products; the management of the operation of production and materials processing systems; the sales, application, and field service of technical products and systems; and the practical design of products and machinery for industry using established procedures.



CPT

CHEMICAL PROCESS TECHNOLOGY (CPT)

Graduates of the Chemical Process Technology Program are suited for professional positions in process operations. The chemical process industries produce and distribute many key materials such as pharmaceuticals, petroleum products, paper, plastics, rubber, insecticides, fertilizers, and metals. Typical positions involve the supervision of production, the management of quality assurance, maintenance planning and control, or marketing and technical service. The program includes mathematics, basic and engineering sciences, process technology, computer programming, and General Education courses. Topics in industrial engineering technology are taken as electives.

PROGRAM T1: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMICAL PROCESS TECHNOLOGY (CPT)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
First Year				
CPT	125	Inorganic Chemistry	3-3-4	
SET	153	Technical Computation	1-0-1	
MCT	110L	Technical Drawing and CAD	0-6-2	
REL	103	Introduction to Religion ²	3-0-3	
SET	112	Precalculus for Engineering Technology	4-0-4	
ENG	101-102 or 114 or 198	College Composition I, II ²	3-0-3	3-0-3
SET	113	Finite Mathematics for Engineering Technology		3-0-3
CPT	210	Organic Chemistry		3-3-4
PHL	103	Introduction to Philosophy ²		3-0-3
HST	101/102	History of Western Civilization ²		3-0-3
			17	16
Sophomore Year				
CPT	212	Quantitative Analysis	2-5-4	
MCT	220	Statics and Dynamics	3-0-3	
IET	215	Organization and Management	3-0-3	
—	—	General Education requirement ²	3-0-3	
SET	210-211	Calculus I, II for Engineering Technology	3-0-3	3-0-3
MCT	231	Fluid Mechanics		3-0-3
PHY	203	Modern Technical Physics		3-2-4
EET	201	Fundamentals of Electronic Technology		3-0-3
CPT	316	Analytical Instrumentation		3-3-4
			16	17
Junior Year				
CPT	313	Topics in Physical Chemistry	3-0-3	
CPS	144	FORTAN	3-0-3	
SET	306	Differential Equations for Engineering Technology	3-0-3	
CMM	101	Fundamentals of Oral Communication ²	3-0-3	
—	—	General Education requirements ²	3-0-3	3-0-3
SET	334	Technical Writing		2-0-2
MCT	342	Thermodynamics		3-0-3
CPT	305	Materials Science		3-0-3
MCT	221	Strength of Materials		3-0-3
—	—	Technical elective		3-0-3
			15	17

				Senior Year	
CPT	215	The Chemical Industry		3-0-3	
SET	499	Seminar		1-0-1	
CPT	401-402	Process Operations I, II		3-3-4	3-3-4
—	—	General Education requirements ²		3-0-3	3-0-3
—	—	Technical electives		6-0-6	6-0-6
CPT	420	Instrumentation and Control			3-0-3
				17	16

¹For example, 3-0-3 means 3 class hr., 0 lab. hrs., and 3 sem. hrs. of credit.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g. PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

David I. Gross, *Chairperson, Department of Chemical Technology*

Professor: C. Shaw

Associate Professor: Gross

Part-time Instructors: Dichiaro, Hughes, Kimmel, Smith, Woods

COURSES OF INSTRUCTION

*CPT 122. GENERAL CHEMISTRY: Survey of the general principles of chemistry including elements and their simpler compounds. Emphasis on topics of importance in industrial activities. 3 sem. hrs.

CPT 122L. GENERAL CHEMISTRY LABORATORY: To accompany CPT 122. Three hours of laboratory a week. 1 sem. hr.

CPT 125. INORGANIC CHEMISTRY: Comprehensive treatment of the structure, properties and reactivities of chemical elements and their inorganic compounds. Prerequisite: high school chemistry with screening test passing score or CPT 122. 3 sem. hrs.

CPT 125L. INORGANIC CHEMISTRY LABORATORY: Physicochemical measurements to accompany CPT 125. Three hours of laboratory a week. 1 sem. hr.

CPT 210. ORGANIC CHEMISTRY: Study of aliphatic, aromatic, and heterocyclic compounds, including structure, reactions, properties, and applications. Prerequisite: CPT 125. 3 sem. hrs.

CPT 210L. ORGANIC CHEMISTRY LABORATORY: To accompany CPT 210. Three hours of laboratory a week. 1 sem. hr.

CPT 212. QUANTITATIVE ANALYSIS: Fundamental principles and techniques involved in exact analysis. Theory of gravimetry, titrimetry, and colorimetry. Prerequisite: CPT 125, 210. 2 sem. hrs.

CPT 212L. QUANTITATIVE ANALYSIS LABORATORY: To accompany CPT 212. Five hours of laboratory a week. Prerequisite: CPT 125L. 2 sem. hrs.

*CPT 214. GENERAL CHEMISTRY WITH CASE STUDIES: Survey of the principles of chemistry including elements, their simpler compounds, and molecular phenomena. Includes a sequence of case studies of industrial applications, their economic and environmental effects, and their impact on personal, social and environmental values. 4 sem. hrs.

*CPT 215. THE CHEMICAL INDUSTRY—TECHNOLOGY AND ISSUES: Broad survey of the chemical process industries stressing their underlying chemistry, unit operations, and generation of by-products. Environmental concerns and key economic factors are examined as issues bearing on individual values and the ethics of industrial decisions. Prerequisite: CPT 210. *3 sem. hrs.*

CPT 305. MATERIALS SCIENCE: Introduction to engineering materials and their properties and behavior. Emphasis on physical metallurgy, metals, alloys. Some coverage of ceramics, cements, and aggregates. *3 sem. hrs.*

CPT 313. TOPICS IN PHYSICAL CHEMISTRY: Consideration of several topics pertinent to physical chemistry: thermochemistry, states of matter, reaction kinetics, electrochemistry. Prerequisite: CPT 125. *3 sem. hrs.*

CPT 316. ANALYTICAL INSTRUMENTATION: Study of analytical instrumentation commonly available to research laboratories and process industries. Includes underlying physical principles, equipment operations, and the interpretation of spectra and other data. Prerequisite: CPT 212. *3 sem. hrs.*

CPT 316L. ANALYTICAL INSTRUMENTATION LABORATORY: To accompany CPT 316. Three hours of laboratory a week. Prerequisite: CPT 212L. *1 sem. hr.*

CPT 400. SELECTED CHEMICAL TOPICS: Investigation and discussion of current technical topics in chemical technology. May be taken more than once. Prerequisite: Permission of department chairperson. *3 sem. hrs.*

CPT 401. PROCESS OPERATIONS I: Study and application of the engineering principles and methods which underlie chemical process operations. Material and energy balances, fluid flow, heat transfer, evaporation, drying, and filtration. Prerequisites: MCT 231, 342, CPT 313. *3 sem. hrs.*

CPT 402. PROCESS OPERATIONS II: Continuation of CPT 401, emphasizing mass transfer operations. Humidification, distillation, liquid-liquid extraction, gas scrubbing, and adsorption. Prerequisite: CPT 401. *3 sem. hrs.*

CPT 401L-402L. PROCESS OPERATIONS LABORATORY I, II: To accompany CPT 401-402. Three hours of laboratory a week. *1 sem. hr. each*

CPT 420. INSTRUMENTATION AND CONTROL: Survey of devices for detecting and signaling the state of process control variables. Principles and methods of automatic process control. Control modes, controllers, feedback and feed forward operations, tuning methods, and data acquisition systems. Includes tuning exercises using computer-simulated processes. *3 sem. hrs.*

CPT 437. INTRODUCTION TO NUCLEAR TECHNOLOGY: Selected principles of physics and engineering to include nuclear phenomena, radioactivity, reactor thermodynamics, and heat power generation. Includes studies of reactor configurations, materials, fuels, shielding, safety, and security. Prerequisite: MCT 342. *3 sem. hrs.*

CPT 452. POLLUTION CONTROL I: Study of air pollution, its origins and effects, and methods of pollution abatement. Emphasis on abatement mechanisms, industrial control equipment, and operations. Prerequisite: CPT 125. *3 sem. hrs.*

CPT 453. POLLUTION CONTROL II: Study of water pollution, its occurrence, effects, and control provisions. Examination of municipal water and wastewater practices; case study of an industrial waste point source. Prerequisite: BIO 350. *3 sem. hrs.*

CPT 454. POLLUTION CONTROL III: Study of hazardous waste management: the origin and classification of wastes, regulatory provisions, and abatement technology; toxicology, thermal conversion, and modern incineration systems. Prerequisite: CPT 125. *3 sem. hrs.*

CPT 454L. POLLUTION CONTROL LABORATORY: To accompany CPT 454. Experiments in quantitative and qualitative methods of water analysis, including biological and chemical techniques. Possible visits to municipal or water treatment facilities. No absences permitted. Prerequisite: CPT 212L. *1 sem. hr.*

CPT 455. POLLUTION CONTROL IV: Continuation of CPT 454. Studies of ground water occurrence, hydrology, contaminant entry, plume propagation, quality monitoring, and remediation techniques; the technology of solid waste containment, leachate control, and drinking water protection. Prerequisite: CPT 454. *3 sem. hrs.*

CPT 462. POLYMERS: Introduction to addition, condensation, cellulosic and natural polymers, their production, processing, properties, and use. Extensive examination of plastics manufacturing operations including casting, extrusion, and composite methods. Prerequisite: CPT 122. *3 sem. hrs.*

*General Education course. See Chapter V.



EET

ELECTRONIC ENGINEERING TECHNOLOGY (EET)

The Department of Electronic Engineering Technology prepares students for careers in the electronics field. The curriculum includes a strong emphasis on computer engineering technology while centering on applied engineering topics in circuit analysis, electronic design, communications, digital circuits, microprocessors, and instrumentation. The graduate is prepared to work in industry at a variety of tasks including analog and digital design, microprocessor hardware and software applications, plant engineering, technical management, engineering sales, product design and development, and electronic communications. The curriculum provides the strong foundation in basic electronics necessary to support any future career studies or development as dictated by changing technology or career roles.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

PROGRAM T3: BACHELOR OF SCIENCE WITH A MAJOR IN ELECTRONIC ENGINEERING TECHNOLOGY (EET)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
First Year				
EET	100	First-Year Seminar	1-0-0	
PHL	103	Introduction to Philosophy ²	3-0-3	
SET	112	Precalculus for Engineering Technology	4-0-4	
SET	113	Finite Mathematics for Engineering Technology		3-0-3
SET	153	Technical Computation	1-0-1	
EET	110-120	Electrical Circuits I, II	3-3-4	3-3-4
ENG	101-102 or 114 or 198	College Composition I, II ²	3-0-3	3-0-3
HST	101/102	History of Western Civilization ²		3-0-3
REL	103	Introduction to Religion ²		<u>3-0-3</u>
			15	16
Sophomore Year				
EET	220	Electrical Circuits III	3-0-3	
EET	223L	Schematics and Diagrams	0-3-1	
EET	224	Digital Computer Fundamentals	3-3-4	
SET	210	Calculus I for Engineering Technology	3-0-3	
EET	206-306	Electron Devices I, II	3-3-4	3-3-4
EET	300	Electronic Engineering Technology Seminar	1-0-0	1-0-0
CPT	122	General Chemistry		3-3-4
EET	357	Microprocessors I		3-3-4
SET	211	Calculus II for Engineering Technology		3-0-3
SET	334	Technical Writing		<u>2-0-2</u>
			15	17
Junior Year				
EET	208	Cathode Ray Oscilloscope	1-0-1	
EET	358	Microprocessors II	3-0-3	
EET	361	Programming Structures	3-0-3	
MCT	220	Statics and Dynamics	3-0-3	
SET	306	Differential Equations for Engineering Technology	3-0-3	
EET	300	Electronic Engineering Technology Seminar	1-0-0	1-0-0
EET	—	Electronic Engineering Technology Electives	3-0-3	3-0-3
CMM	101	Fundamentals of Oral Communication ²		3-0-3

EET	328	Electronic Communications		3-3-4
IET	215	Organization and Management		3-0-3
PHY	203	Modern Technical Physics		3-2-4
			16	17
Senior Year				
EET	427	Pulse and Digital Circuits		3-3-4
SET	499	Seminar		1-0-1
EET	300	Electronic Engineering Technology Seminar		1-0-0
—	—	General Education requirements ²		9-0-9
—	—	Technical electives		6-0-6
EET	430	Special Electronic Projects		1-0-1
			17	16

¹For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

Joseph M. Farren, *Chairperson*

Professor Emeritus: Hazen

Professors: Farren, Hanneman, Rooney

Associate Professors: Coures, Hovey, Ismail

Part-time Instructors: Surber, VanDonkelaar

COURSES OF INSTRUCTION

EET 100. FIRST-YEAR SEMINAR: Introduction to the department, its faculty, its curriculum, opportunities for graduates, and the various procedures and policies necessary for the successful student to follow. *No credit*

EET 110. ELECTRICAL CIRCUITS I: Practical concepts of DC circuits: resistance, resistivity, power, and magnetism. Circuit calculations using basic formulas. Corequisite: SET 112. *3 sem. hrs.*

EET 110L. ELECTRICAL CIRCUITS I LABORATORY: To accompany EET 110. Three hours of laboratory a week. *1 sem. hr.*

EET 120. ELECTRICAL CIRCUITS II: Practical concepts of AC circuits: capacitance, inductance, reactance, impedance, phase, and circuit analysis. Circuit calculations utilize vectors and complex quantities. Prerequisites: SET 112 and EET 110, 201 or PHY 202. *3 sem. hrs.*

EET 120L. ELECTRICAL CIRCUITS II LABORATORY: To accompany EET 120. Three hours of laboratory a week. *1 sem. hr.*

EET 201. FUNDAMENTALS OF ELECTRONIC TECHNOLOGY: Physics of electricity, DC and AC circuit fundamentals, measurements, and electron devices for non-electronic engineering technology majors. Prerequisite: SET 112. *3 sem. hrs.*

EET 206. ELECTRON DEVICES I: Fundamentals of transistors (bipolar and field effect), vacuum tubes, gas tubes, semi-conductor diodes, and their associated circuits. Prerequisite: EET 120. Corequisite: SET 210. *3 sem. hrs.*

EET 206L. ELECTRON DEVICES I LABORATORY: To accompany EET 206. Three hours of laboratory a week. *1 sem. hr.*

EET 208. CATHODE RAY OSCILLOSCOPE: Study of the design, operation and application of the cathode ray oscilloscope. Prerequisite: EET 120. *1 sem. hr.*

EET 220. ELECTRICAL CIRCUITS III: Topics in AC circuits including power factor correction, resonance, polyphase circuits, transformers, pulse response, and the use of ECAP and SPICE to analyze circuits. Prerequisite: EET 120. *3 sem. hrs.*

EET 223L. SCHEMATICS AND DIAGRAMS: Procedures, standards and symbols used on electronic circuit diagrams. Introduction to schematic capture using a CAD system. Three hours of laboratory a week. Prerequisite: EET 120. *1 sem. hr.*

EET 224. DIGITAL COMPUTER FUNDAMENTALS: Fundamental theory and techniques of electronic data processing to include binary arithmetic, switching theory (Boolean algebra), and basic circuitry (gates, adders, registers, and memory). Prerequisite: EET 110, EET 201, or PHY 202. *3 sem. hrs.*

EET 224L. DIGITAL COMPUTER FUNDAMENTALS LABORATORY: To accompany EET 224. Three hours of laboratory a week. *1 sem. hr.*

EET 300. ELECTRONIC ENGINEERING TECHNOLOGY SEMINAR: Exchange of ideas in electronics, to include student lectures, guest lectures, and industrial visitations. Required of all EET students who are enrolled in or have taken EET 206. *No credit*

EET 306. ELECTRON DEVICES II: Fundamentals of integrated circuits, operational amplifiers, transistors, photoelectric devices, silicon-controlled rectifiers, and their associated circuits. Prerequisite: EET 206. Corequisite: SET 211. *3 sem. hrs.*

EET 306L. ELECTRON DEVICES II LABORATORY: To accompany EET 306. Three hours of laboratory a week. *1 sem. hr.*

EET 307. ELECTRICAL MEASUREMENTS: Application of direct and alternating current circuit analysis to electrical measuring methods and techniques with emphasis on industrial problems and considerations. Prerequisite: EET 120. *3 sem. hrs.*

EET 328. ELECTRONIC COMMUNICATIONS: Principles of operation of filters, modulators, demodulators, and converters. Prerequisite: EET 306. *3 sem. hrs.*

EET 328L. ELECTRONIC COMMUNICATIONS LABORATORY: To accompany EET 328. Three hours of laboratory a week. *1 sem. hr.*

EET 357. MICROPROCESSORS I: Study of microprocessor architecture, hardware, software, and application. Prerequisite: EET 224. Corequisite: EET 357L must be taken at same time. *3 sem. hrs.*

EET 357L. MICROPROCESSORS I LABORATORY: To accompany EET 357. Emphasis on memory design, I/O design, and software development. Three hours of laboratory a week. *1 sem. hr.*

EET 358. MICROPROCESSORS II: Studies in microprocessor software design, mass storage systems, and applications. Prerequisite: EET 357. *3 sem. hrs.*

EET 361. PROGRAMMING STRUCTURES: The study of programming language structure concepts for microcomputers. Emphasis on the C programming language and its application to software and hardware development. Topics include C operators, flow control statements, functions, pointers and arrays, I/O structures, and library routines. Prerequisite: Some knowledge of either BASIC, FORTRAN or PASCAL. *3 sem. hrs.*

EET 362. CONCEPTS AND APPLICATIONS OF COMPUTER OPERATING SYSTEMS: Introduction to the fundamentals and applications of computer operating systems and the interaction of hardware and software. Operating systems for large-scale, mini-, and microcomputers introduced through case studies. Prerequisite: EET 357. *3 sem. hrs.*

EET 400. SELECTED ELECTRONIC TOPICS: Investigation and discussion of current technical topics in electronic engineering technology. May be taken more than once. Prerequisite: Permission of department chairperson. *1-4 sem. hrs.*

EET 427. PULSE AND DIGITAL CIRCUITS: Design and analysis of circuits relating to computers and communications. Topics include integrators, differentiators, blocking oscillators, multivibrators, flip-flops, and time-base generators. Laplace transform analysis utilized. Prerequisites: EET 220, 224; SET 306. *3 sem. hrs.*

EET 427L. PULSE AND DIGITAL CIRCUITS LABORATORY: To accompany EET 427. Three hours of laboratory a week. *1 sem. hr.*

EET 430. SPECIAL ELECTRONIC PROJECTS: Laboratory work and reading associated with a phase of electricity selected by the student and approved by department chairperson. Prerequisite: EET 306. *1 sem. hr.*

EET 450. MICROELECTRONICS: Study of the principles, design techniques, and fabrication processes utilized in the construction of thick film, thin film, and integrated circuits. Prerequisite: EET 206. *3 sem. hrs.*

EET 451. ADVANCED INSTRUMENTATION: Unstructured laboratory study of modern instrumentation. Independent projects including CRT system, integrating DVM, acoustical equipment, and advanced standards. Prerequisite: EET 208. *3 sem. hrs.*

EET 452. FEEDBACK CONTROLS: Study of signal flow, circuit stability. Nyquist criteria, Bode plots, oscillators, amplifiers, and electromechanical devices. Prerequisite: EET 306. *3 sem. hrs.*

EET 453. ANTENNAS: Study of basic antenna types and their application to arrays and other systems. Prerequisite: EET 328. *3 sem. hrs.*

EET 454. ENVIRONMENTAL NOISE CONTROL: Study of noise, noise measurement, physiological effects of noise, federal regulations, and design criteria for noise reduction. Prerequisite: Junior status. *3 sem. hrs.*

EET 459. MICROPROCESSOR SYSTEMS DESIGN: Introduction to industrial design procedures for microprocessor-based control systems. Emphasis on the integration of microcomputer hardware and software. Prerequisite: EET 358. *3 sem. hrs.*

EET 460. ADVANCED MICROPROCESSOR SYSTEMS: Study of advanced microprocessor families and their applications to systems, including single and multi-processor design. Prerequisite: EET 357. *3 sem. hrs.*

EET 461. POWER DISTRIBUTION AND CONTROL: Study of power distribution systems including components, basic operation, and characteristics. Emphasis on the generation of electric power, its transmission and control. Prerequisite: EET 120 or 201.

3 sem. hrs.

EET 462. TELECOMMUNICATIONS TECHNOLOGY: Study of the theoretical and practical electronic structures involved in the telecommunications industry. Applications to data transmission, satellite communications, telephony, and television. Prerequisites: EET 328, 328L.

3 sem. hrs.

EET 463. ELECTRONIC CAD: Methods and techniques utilizing computer-aided design in electronic design, layout, and evaluation. Prerequisites: EET 206, 223. Corequisite: EET 463L.

2 sem. hrs.

EET 463L. ELECTRONIC CAD LABORATORY: To accompany EET 463. Three laboratory hours a week.

1 sem. hr.

EET 464. PROGRAMMABLE LOGIC CONTROLLERS: Study of various microcontrollers and their incorporation into control applications. Interfacing, bus structures, interrupts, and instruction sets; operation and application of programmable logic controllers. Prerequisite: EET 357.

3 sem. hrs.

EET 465. DIGITAL DATA COMMUNICATIONS: Study of the techniques for transmission of messages between digital electronic devices separated by short and long distances. Various data formats used along with hardware, codes, and I/O devices. Prerequisite: EET 357.

3 sem. hrs.

EET 466. MICROCOMPUTER ARCHITECTURE: To develop an understanding of the basic hardware and software architecture of an industry standard microcomputer such as the IBM PC series. To become familiar with the various terms and concepts used in the PC industry. To research current and future developments in PC hardware and software. Prerequisite: EET 357 or equivalent.

3 sem. hrs.



ENVIRONMENTAL ENGINEERING TECHNOLOGY (EVT)

The Environmental Engineering Technology Program is offered and administered by the Department of Chemical Technology. Graduates of the program are prepared for responsibilities in both the private and public sectors wherein the effects and control of pollution are of major concern. Typical professional positions include the oversight of waste treatment operations, the supervision of pollution abatement programs, and the management of regulatory implementation. The program has a strong science base augmented by studies of water, solid and air pollution control technologies, the management of hazardous wastes and federal regulatory provisions.

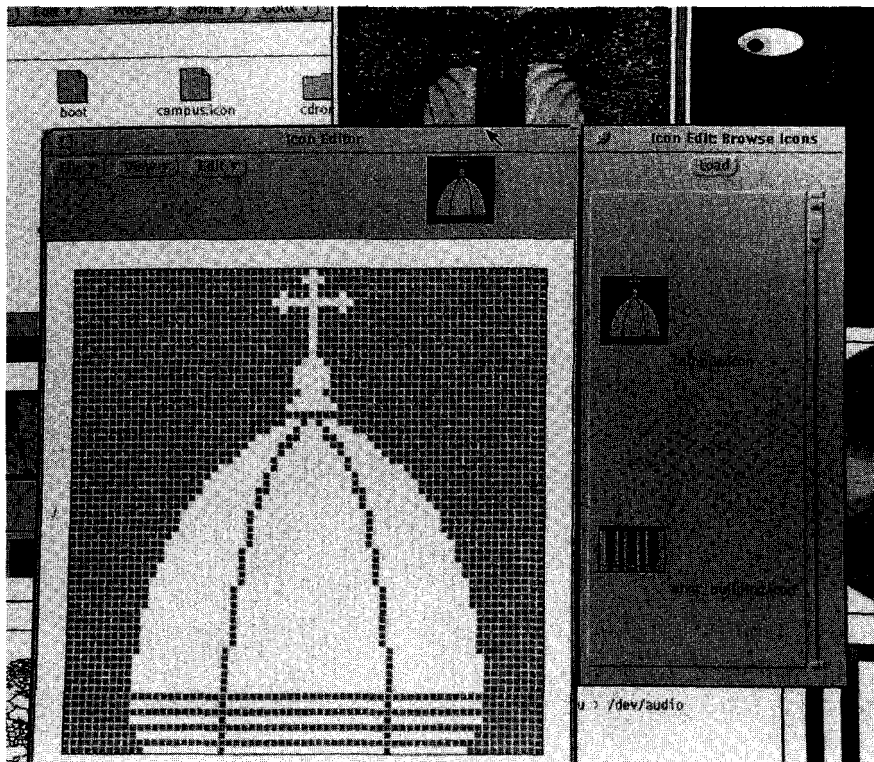
PROGRAM T4: BACHELOR OF SCIENCE WITH A MAJOR IN ENVIRONMENTAL ENGINEERING TECHNOLOGY (EVT)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
First Year				
CPT	125	Inorganic Chemistry	3-3-4	
SET	153	Technical Computation	1-0-1	
MCT	110L	Technical Drawing and CAD	0-6-2	
SET	112	Precalculus for Engineering Technology	4-0-4	
REL	103	Introduction to Religion ²	3-0-3	
ENG	101-102 or 114 or 198	College Composition I, II ²	3-0-3	3-0-3
SET	113	Finite Mathematics for Engineering Technology		3-0-3
CPT	210	Organic Chemistry		3-3-4
PHL	103	Introduction to Philosophy ²		3-0-3
HST	101/102	History of Western Civilization ²		3-0-3
			17	16
Sophomore Year				
BIO	151	Concepts of Biology I	3-0-3	
CPT	212	Quantitative Analysis	2-5-4	
MCT	220	Statics and Dynamics	3-0-3	
GEO	218	Engineering Geology	3-0-3	
SET	210-211	Calculus I, II for Engineering Technology	3-0-3	3-0-3
BIO	350	Applied Microbiology		3-0-3
MCT	231	Fluid Mechanics		3-0-3
PHY	203	Modern Technical Physics		3-2-4
CPT	316	Analytical Instrumentation		3-3-4
			16	17
Junior Year				
EET	201	Fundamentals of Electronic Technology	3-0-3	
MCT	342	Thermodynamics	3-0-3	
SET	306	Differential Equations for Engineering Technology	3-0-3	
CMM	101	Fundamentals of Oral Communication ²	3-0-3	
—	—	General Education requirements ²	3-0-3	6-0-6

SET	334	Technical Writing		2-0-2
CPS	144	FORTRAN		3-0-3
IET	215	Organization and Management		3-0-3
IET	318	Statistical Process Control		3-0-3
			15	17
		Senior Year		
CPT	215	The Chemical Industry	3-0-3	
CPT	313	Physical Chemistry	3-0-3	
CPT	452-453	Pollution Control I, II	3-0-3	3-0-3
CPT	454-455	Pollution Control III, IV	3-3-4	3-0-3
—	—	Technical electives	3-0-3	3-0-3
—	—	General Education requirements ²		6-0-6
SET	499	Seminar		1-0-1
			16	16

¹For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.



INDUSTRIAL ENGINEERING TECHNOLOGY (IET)

The Industrial Engineering Technology Program has as its objective providing specialized education to prepare students for management and technical staff positions in such areas as manufacturing, health care, banking, transportation, food service, and government. They may be involved in the economic selection and location of equipment, the planning of work methods and expected output, and the scheduling and controlling of the flow of materials. The curriculum emphasizes courses in time and motion study, production planning and control, facilities layout, economic analysis, statistical process control, labor and wage administration, and mathematical decision making.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

**PROGRAM T5: BACHELOR OF SCIENCE WITH A MAJOR IN
INDUSTRIAL ENGINEERING TECHNOLOGY (IET)**

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term</i> ¹	<i>2nd Term</i>
First Year				
CPT	122	General Chemistry	3-3-4	
MCT	110L	Technical Drawing and CAD	0-6-2	
REL	103	Introduction to Religion ²	3-0-3	
ENG	101-102 or 114 or 198	College Composition I, II ²	3-0-3	3-0-3
SET	112	Precalculus for Engineering Technology	4-0-4	
PHL	103	Introduction to Philosophy ²		3-0-3
IET	215	Organization and Management		3-0-3
HST	101/102	History of Western Civilization ²		3-0-3
SET	113	Finite Mathematics for Engineering Technology		3-0-3
SET	153	Technical Computation		1-0-1
			16	16
Sophomore Year				
CPS	144	FORTTRAN	3-0-3	
IET	108	Production Methods and Controls	3-0-3	
MFG	108L	Manufacturing Processes Laboratory	0-3-1	
MFG	204	Industrial Materials and Processes	3-3-4	
CMM	101	Fundamentals of Oral Communication ²	3-0-3	
SET	210-211	Calculus I, II for Engineering Technology	3-0-3	3-0-3
EET	201	Fundamentals of Electronic Technology		3-0-3
MCT	220	Statics and Dynamics		3-0-3
IET	225	Elements of Cost Control		3-0-3
IET	230	Work Measurement		3-3-4
MFG	206L	Dimensional Metrology		0-3-1
			17	17
Junior Year				
IET	316	Quantitative Methods in Industrial Engineering Technology	3-0-3	
IET	317	Industrial Economic Analysis	3-0-3	
IET	422	Human Factors	3-0-3	
MCT	313	Industrial Mechanisms	3-0-3	
SET	334	Technical Writing	2-0-2	

IET

University of Dayton IX

—	—	Technical elective	3-0-3	
IET	318	Statistical Process Control		3-0-3
IET	418	Cost Estimating		3-0-3
PHY	203	Modern Technical Physics		3-2-4
—	—	General education requirement ²		3-0-3
SET	499	Seminar		1-0-1
—	—	General Education requirement ²		3-0-3
			17	17
Senior Year				
IET	420	Industrial and Environmental Safety	3-0-3	
IET	432	Facilities Layout	2-3-3	
—	—	General Education requirement ²	3-0-3	3-0-3
—	—	Technical electives	6-0-6	3-0-3
IET	405	Labor Administration		3-0-3
IET	421	Project Management		3-0-3
—	—	General Education requirement ²		3-0-3
			15	15

¹For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

James F. Courtright, *Program Director*

Professor Emeritus: McGraw

Professor: Courtright, Simon (MFG)

Associate Professors: Edmonson, Summers, Untener (MCT)

Assistant Professor: Sharp (MFG)

COURSES OF INSTRUCTION

IET 108. PRODUCTION METHODS AND CONTROLS: Introduction to the principles and current practices of managing the production of goods and services. Just-in-time, materials requirements planning, forecasting, bills of material, scheduling, and optimizing production. 3 sem. hrs.

IET 215. ORGANIZATION AND MANAGEMENT: Study of the structure of industrial and service organizations; the responsibilities and duties of a manager or supervisor in developing an effective production team. Written and oral team presentations, role playing, and the application of human relations. 3 sem. hrs.

IET 225. ELEMENTS OF COST CONTROL: Survey of the methods of breakdown and cost analysis of labor, material, and overhead used in manufacturing and service organizations. Basic cost accounting including balance sheets, income statements, change of financial condition, and ratio analysis. Prerequisites: SET 112, 153. 3 sem. hrs.

IET 230. WORK MEASUREMENT: Fundamentals of work simplification and motion economy using the techniques of time-and-motion study. Setting of labor standards using the techniques of stop watch, pre-determined time, standard data, and work sampling. Introduction to CIM and automated manufacturing. Prerequisites: SET 112, 153. Corequisite: IET 230L. *3 sem. hrs.*

IET 230L. WORK MEASUREMENT LABORATORY: The application of real-world time-and-motion-study techniques such as flow process, man-machine, and gozinta charts. Calculations for time standards, production efficiency, line balance, cost reduction, manpower, and equipment. A written and oral report on an automated machine line; computer programs and computerized time studies. Three hours of laboratory each week. Prerequisites: SET 112, 153. Corequisite: IET 230. *1 sem. hr.*

IET 316. QUANTITATIVE METHODS IN INDUSTRIAL ENGINEERING TECHNOLOGY: Introduction of the mathematical techniques used to support decision making and managerial analysis. Probability theory, decision theory, linear programming, and queuing theory. Prerequisites: SET 113, 153. *3 sem. hrs.*

IET 317. INDUSTRIAL ECONOMIC ANALYSIS: Comparison of manufacturing or service industry projects and investments based on their economic value. Quantification of costs and benefits; analysis using present worth and annual worth methods. Study of simple and compound interest. Prerequisites: SET 153, 210. *3 sem. hrs.*

IET 318. STATISTICAL PROCESS CONTROL: Statistics and probability theory applied to produce control charts (\bar{x} , R, s, p, u, and c) to monitor processes. Interpretation and application of these charts. Sample size selection, reliability, pareto analysis, and modern quality management techniques. Prerequisites: SET 113, 153. *3 sem. hrs.*

IET 319. QUALITY IMPROVEMENT METHODS: Study of problem identification techniques, quality team development and use in relation to problem solving. Students will learn to use pareto analysis, cause and effect diagrams, scatter diagrams, and other quality control problem solving tools. Quality costs, quality audits, and product liability issues are also covered. Prerequisites: IET 318, SET 113, 153. *3 sem. hrs.*

IET 320. QUALITY ASSURANCE TECHNIQUES: Students will be exposed to a variety of current quality assurance topics that companies use to improve quality, increase productivity and reduce costs. Topics include: total preventive maintenance, quality function deployment, reliability engineering, design of experiments, and Taguchi methods. Prerequisites: IET 318, SET 113, 153. *3 sem. hrs.*

IET 321. QUALITY MANAGEMENT: Provides the student with an understanding of managing a total quality environment to improve quality, increase productivity and reduce costs. An introduction to Deming, Juran, and others. Requirements of ISO-9000, Q-90, and the Malcolm Baldrige award will be covered. Also a discussion of Total Quality Management implementation strategies. Prerequisites: IET 318, SET 113, 153. *3 sem. hrs.*

IET 400. SELECTED TOPICS: A self-paced research course. Preparation of a documented written research project on an engineering technology subject. May not be taken more than once. Prerequisites: Junior or senior status; permission of program director. *3 sem. hrs.*

IET 405. LABOR ADMINISTRATION: Brief history of labor legislation and labor unions to provide an understanding of the origins of current labor practices. Case studies on current labor topics as examples of management techniques. Collective bargaining, employee rights, contracts, grievances, and arbitration. 3 sem. hrs.

IET 418. COST ESTIMATING: Study of the fundamentals of cost estimating of labor, material, and overhead for products, projects, operations, and systems. The concepts of internal and external cost estimating, types of costs, ethics, budgets, and profit. Semester team and individual projects, written and oral. Prerequisites: SET 153, 210. 3 sem. hrs.

IET 420. INDUSTRIAL AND ENVIRONMENTAL SAFETY: Study of practices and devices such as OSHA, Life Safety Code 101, sprinkler systems, special protection systems, hazardous materials, SARA, machine guarding, poisons, pests, construction, helicopters, the National Electric Code, health, and personal protection. Written inspection reports. 3 sem. hrs.

IET 421. PROJECT MANAGEMENT: Study of the structure, techniques, and application of project management including mathematical models, decision making, styles of management, and communications. Analysis of and oral reports on project management problems. Semester team project with written and oral presentations. Prerequisites: SET 113, 153, 334; IET 215; CMM 101. 3 sem. hrs.

IET 422. HUMAN FACTORS: Methods of improving the interface of humans with their physical work environment. Study of human characteristics to determine the best designs for tasks, products, work stations, and other environmental features. Written and oral projects. Prerequisite: Junior or senior status. 3 sem. hrs.

IET 423. THE IET IN SERVICE ORGANIZATIONS: Case studies, articles, guest speakers, and projects to provide insight into how industrial engineering technology skills and training can be applied to service industries including hospitals, banks, and eating and retailing establishments. Prerequisite: IET junior status. 3 sem. hrs.

IET 432. FACILITIES LAYOUT: Design of facilities for the most efficient flow of raw materials, work-in-process, and completed stock through a work place. Facilities layout, material handling, and warehousing in relation to trends toward reduced inventory, smaller lot sizes, and just-in-time. Prerequisites: IET 230, 230L, and IET junior status. Corequisite: IET 432L. 2 sem. hrs.

IET 432L. FACILITIES LAYOUT LABORATORY: To accompany IET 432. Projects to investigate efficient layouts of production facilities, hospitals, libraries, warehouses, receiving docks, and other areas. Three hours of laboratory a week. Prerequisites: IET 230, 230L; IET junior status. Corequisite: IET 432. 1 sem. hr.

MANUFACTURING ENGINEERING TECHNOLOGY (MFG)

The Manufacturing Engineering Technology Program prepares graduates for technical and management careers in many types of companies, such as those that fabricate and assemble mechanical equipment or consumer products, continuous process industries, and defense-related industries. Positions in manufacturing engineering, plant engineering, production supervision, quality assurance, methods, and tooling are appropriate for the graduate of this program. Instruction is provided in manufacturing technology; computer-aided design; automated manufacturing and computer-integrated manufacturing; the technical sciences; manufacturing planning and control; and applied mathematics including probability and statistics, calculus, and linear programming. The program contains strong components from the humanities, social sciences, and communications to help prepare the graduates for productive careers in industry.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

PROGRAM T6: BACHELOR OF SCIENCE WITH A MAJOR IN MANUFACTURING ENGINEERING TECHNOLOGY (MFG)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
First Year				
CPT	122	General Chemistry	3-3-4	
MCT	110L	Technical Drawing and CAD	0-6-2	
SET	112	Precalculus for Engineering Technology	4-0-4	
SET	153	Technical Computation	1-0-1	
REL	103	Introduction to Religion ²	3-0-3	
ENG	101-102 or 114 or 198	College Composition I, II ²	3-0-3	3-0-3
SET	113	Finite Mathematics for Engineering Technology		3-0-3
MFG	108L	Manufacturing Processes Laboratory		0-3-1
MFG	204	Industrial Materials and Processes		3-3-4
PHL	103	Introduction to Philosophy ²		3-0-3
HST	101/102	History of Western Civilization ²		3-0-3
			17	17
Sophomore Year				
CPS	144	FORTRAN	3-0-3	
CMM	101	Fundamentals of Oral Communication ²	3-0-3	
IET	108	Production Methods and Control	3-0-3	
MFG	206L	Dimensional Metrology	0-3-1	
MCT	220	Statics and Dynamics	3-0-3	
SET	210	Calculus I for Engineering Technology	3-0-3	
SET	211	Calculus II for Engineering Technology		3-0-3
IET	318	Statistical Process Control		3-0-3

MCT	221	Strength of Materials		3-0-3
MCT	231	Fluid Mechanics		3-0-3
MFG	240	Manufacturing Design		3-0-3
SET	334	Technical Writing		2-0-2
			16	17
Junior Year				
IET	316	Quantitative Methods in Industrial Engineering Technology	3-0-3	
EET	201	Fundamentals of Electronic Technology	3-0-3	
MFG	434	Numerical Control	3-0-3	
MCT	313	Industrial Mechanisms	3-0-3	
MCT	336	Fluid Power	3-3-4	
—	—	General Education requirement ²		3-0-3
MFG	426	Automated Manufacturing Systems and CIM		3-0-3
MFG	431	Controls for Industrial Automation		3-0-3
PHY	203	Modern Technical Physics		3-2-4
SET	499	Seminar		1-0-1
—	—	Technical elective		3-0-3
			16	17
Senior Year				
MFG	450	Manufacturing Engineering Technology Project	2-0-2	
MCT	333L	Mechanical Measurements	0-3-1	
IET	317	Industrial Economic Analysis	3-0-3	
—	—	Technical electives	3-0-3	6-0-6
—	—	General Education requirements ²	6-0-6	6-0-6
IET	215	Organization and Management		3-0-3
			15	15

¹For example, 3-0-3 means 3 class hours, 0 lab. hours, and 3 sem. hrs. of credit.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

Robert L. Wolff, *Program Director*

Professors: Courtright (IET), Simon, Wolff

Associate Professors: Summers (IET), Untener (MCT)

Assistant Professors: Sharp

Adjunct Professor: Wendeln

COURSES OF INSTRUCTION

MFG 108L. MANUFACTURING PROCESSES LABORATORY: Application of metal-cutting theory using single- and multiple-point cutting tools, basic metal removal process of toolroom and production machines. Experience on conventional milling machines, shapers, lathes, surface grinders, and drill presses. Three hours of laboratory a week. 1 sem. hr.

MFG 204. INDUSTRIAL MATERIALS AND PROCESSES: Chemical and physical properties of metals, ceramics, and polymers; casting processes; powdered metallurgy; metal forming; plastic processes. Oral and written presentation of a team case study. Corequisite: MFG 204L. *3 sem. hrs.*

MFG 204L. INDUSTRIAL MATERIALS AND PROCESSES LABORATORY: Destructive testing of metal using standard test instruments and procedures for tension, impact, and hardness. Heat-treatment studies including tempering, hardening, annealing, and hardenability curve determination. Hardness testing including Rockwell, Brinell, and Shore Scleroscope. Impact testing. Visits to local industries. Corequisite: MFG 204. *1 sem. hr.*

MFG 206L. DIMENSIONAL METROLOGY: Theory and practice of dimensional metrology including the surface plate, angle and sine plates, basic measuring instruments, optical microscope and profile projector, electronic gauges, co-ordinate measuring machine, fixed gauges, length standards, measurement of geometric sizes of parts, height gauges, dial indicators, study of sources of measurement error, engineering drawing interpretation. Three hours of laboratory a week. Prerequisites: SET 112, 113; MCT 110L. *1 sem. hr.*

MFG 240. MANUFACTURING DESIGN: Manufacturing planning; drawing interpretation; geometric dimensioning and tolerancing; process planning; machine tools; workholders; power presses; blanking, forming, and draw dies; fine blanking; group technology. Prerequisites: MFG 108L, 204, 206L; MCT 110L. *3 sem. hrs.*

MFG 400. SELECTED MANUFACTURING TOPICS: Investigation and discussion of current topics in manufacturing engineering technology. May be taken more than once. Prerequisite: Permission of the program director. *1-4 sem. hrs.*

MFG 424. ROBOTICS: Study of robotics including history, robot geometry, cost justification, end-effector (types, use, and design), sensors, and programming. Application of robots in industries. Robot programming and operation projects and end-effector design projects. Prerequisites: SET 113, 153; MCT 220 or 217, 313. *3 sem. hrs.*

MFG 426. AUTOMATED MANUFACTURING SYSTEMS AND CIM: CIM systems and interrelationships; group technology, computer-aided process planning, expert systems, local area networks, automated flow lines, data collection, material handling. Team project to plan, design, and make an oral presentation of a proposal for a complete manufacturing cell. Prerequisites: MFG 108L, 204; SET 153. *3 sem. hrs.*

MFG 431. CONTROLS FOR INDUSTRIAL AUTOMATION: Electrical motor and control types and selection, conventional machinery control input-output devices, stepper motors. Interpretation and design of conventional ladder relay logic control systems, programmable logic controller systems using manual data input and off-line computer-programming projects, and moving-part pneumatic logic systems. Prerequisites: EET 201; SET 113, 153. *3 sem. hrs.*

MFG 434. COMPUTER NUMERICAL CONTROL: CNC programming for the mill and lathe; application of CAM software to design CNC programs, edit programs, and display tool paths. Parametric part programming concepts to produce complex surfaces. Machine set-up and operation. Design, programming, and production of a product on the CNC mill and lathe. Prerequisites: SET 112, 153; MFG 108L; MCT 110L. *3 sem. hrs.*

MFG 450. MANUFACTURING ENGINEERING TECHNOLOGY PROJECT: Study and research in a specific area that integrates major elements from previous design and manufacturing process courses, culminating in individual and/or group projects and technical reports. Prerequisite: MFG senior status. *2 sem. hrs.*

MCT

MECHANICAL ENGINEERING TECHNOLOGY (MCT)

The Mechanical Engineering Technology Program emphasizes the practical application of the principles of the mechanical field. Career opportunities are in mechanical design, computer-aided design, product evaluation and development, manufacturing engineering, computer-aided manufacturing, plant engineering, technical sales, technical service, fluid power, automation, and supervision. A significant portion of the graduates are in technical management. The curriculum includes a core of technical sciences; applied courses in design, thermodynamics, fluid mechanics, and manufacturing; extensive laboratory experiences; and mathematics from college algebra through probability, statistics, calculus, and differential equations. Courses are required in oral and written communication, with components in the humanities and social sciences to provide insight into the impact of technology on society. Concepts from basic education are stressed in technical courses. The curriculum is broad to prepare graduates for employment and provide a foundation on which to base continued study of changing technology.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

PROGRAM T7: BACHELOR OF SCIENCE WITH A MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY (MCT)

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>1st Term¹</i>	<i>2nd Term</i>
First Year				
CPT	122	General Chemistry	3-3-4	
MFG	108L	Manufacturing Processes Laboratory	0-3-1	
MCT	110L	Technical Drawing and CAD	0-6-2	
SET	112	Precalculus for Engineering Technology	4-0-4	
REL	103	Introduction to Religion ²	3-0-3	
ENG	101-102 or 114 or 198	College Composition I, II ²	3-0-3	3-0-3
SET	113	Finite Mathematics for Engineering Technology		3-0-3
SET	153	Technical Computation		1-0-1
MCT	111	Computer Graphics		1-6-3
MFG	204	Industrial Materials and Processes		3-3-4
HST	101/102	History of Western Civilization ²	—	3-0-3
			17	17
Sophomore Year				
SET	210	Calculus I for Engineering Technology	3-0-3	
CPS	144	FORTTRAN	3-0-3	
MCT	215	Statics	3-0-3	
MFG	206L	Dimensional Metrology	0-3-1	
PHL	103	Introduction to Philosophy ²	3-0-3	
PHY	201-202	General Physics	3-2-4	3-2-4
SET	211	Calculus II for Engineering Technology		3-0-3
MCT	217	Dynamics		3-0-3
MCT	221	Strength of Materials		3-0-3
MCT	231	Fluid Mechanics		3-0-3
			17	16

Junior Year			
SET	306	Differential Equations for Engineering Technology	3-0-3
MCT	313	Industrial Mechanisms	3-0-3
MCT	333L	Mechanical Measurements	0-3-1
MCT	336	Fluid Power	3-3-4
MFG	240	Manufacturing Design	3-0-3
SET	334	Technical Writing	2-0-2
SET	499	Seminar	1-0-1
MCT	330	Design of Machine Elements	3-0-3
MCT	334L	Fluid and Thermal Laboratory	1-0-1
MCT	342	Thermodynamics	3-0-3
—	—	Technical elective	3-0-3
CMM	101	Fundamentals of Oral Communication ²	3-0-3
—	—	General Education requirement ²	3-0-3
			16
			17
Senior Year			
MCT	433	Mechanical Design	2-0-2
EET	120/224	Elec. Circuits II or Digital Computer Fund	3-0-3
MCT	—	Mechanical Technical Electives	3-0-3
—	—	Technical Electives	3-0-3
—	—	General Education requirements ²	6-0-6
IET	215	Organization and Management	3-0-3
			17
			15

¹For example, 3-0-3 means 3 class hours, 0 lab. hours, and 3 sem. hrs. of credit.

²See General Education Requirements, Chapter V. Some General Education courses are specified in the program; others are to be chosen from the listing of approved courses.

FACULTY

Philip E. Doepker, *Chairperson*

Professor Emeritus: Wilder

Professors: Doepker, Mott, Wolff (MFG)

Associate Professor: Untener

Assistant Professors: Myszka, Sharp (MFG)

COURSES OF INSTRUCTION

MCT 109L. INTRODUCTION TO CAD: Coordinate systems; display commands; computer generation of various geometric primitives such as points, lines, arcs, strings, text, groups, and symbols; editing and manipulating geometry; layers and layering standards; three-dimensional modeling. Three hours of laboratory a week. Prerequisite: Approval only. 1 sem. hr.

MCT 110L. TECHNICAL DRAWING AND CAD: Technical sketching and shape description, orthographic projection theory, multi-view drawings, necessary views, sectional views, working and shop drawings, dimensioning practices, tolerancing, thread and fastener representation and nomenclature, assembly and detail drawings. Six hours of laboratory a week using conventional drafting instruments and commercial computer-aided design (CAD) software. 2 sem. hrs.

MCT 111. COMPUTER GRAPHICS: ANSI Y14.5-1982 tolerancing and drafting standards, auxiliary views, selected topics from descriptive geometry, weld symbols, machining and surface finish symbols, blueprint reading as applied to frames, mechanical and structural components, piping and hydraulic drawings. Individual or team design projects. Prerequisite: MCT 110L. *1 sem. hr.*

MCT 111L. COMPUTER GRAPHICS LABORATORY: Laboratory assignments utilizing traditional and computer-aided design (CAD) techniques to reinforce topics from MCT 111. Advanced topics from CAD, three-dimensional solid and surface modeling. Prerequisite: MCT 110L. Corequisite: MCT 111. *2 sem. hrs.*

MCT 215. STATICS: Principles of applied engineering mechanics: force systems, free body diagrams, resultants and equilibrium in both two- and three- dimensional systems; centroids and centers of gravity; distributed load systems; application of loads to trusses, frames, machines, and beams; friction; moments of inertia of areas. Prerequisites: SET 112, 153. *3 sem. hrs.*

MCT 217. DYNAMICS: Principles of applied engineering dynamics; kinematics including translation, rotation, plane motion, and relative motion; kinetics of particles and bodies by the methods of force-mass-acceleration, work-energy, and impulse-momentum; introduction to mechanical vibrations. Prerequisites: MCT 215 or 220; SET 153, 210. *3 sem. hrs.*

MCT 220. STATICS AND DYNAMICS: Study of forces on bodies at rest and in motion using Newton's three laws of motion. Vectors, force systems, components, reactions, resultants, free body diagrams, equilibrium, centroids, moment of inertia, kinetics, and kinematics. For non-MCT majors only. Prerequisites: SET 112, 153. Corequisite: SET 210. *3 sem. hrs.*

MCT 221. STRENGTH OF MATERIALS: Analysis and design of load-carrying members, considering stress, strain, and deflection. Study of direct tension, compression, and shear; torsion; shear and moment diagrams; bending; combined stress; analysis of columns; pressure vessels. Prerequisites: MCT 215 or 220; SET 153, 210. *3 sem. hrs.*

MCT 231. FLUID MECHANICS: Fluid properties, fluid statics including manometry, submerged surfaces, buoyancy and stability of floating bodies. The principles of fluid flow including Bernoulli's and energy equations, energy losses, and pump power. Analysis and design of pipe line systems and open channels; pump selection. Prerequisites: MCT 215 or 220; SET 112, 153. *3 sem. hrs.*

MCT 313. INDUSTRIAL MECHANISMS: Design and analysis of linkages and cams. Graphical solutions to kinematics problems including the concepts of instantaneous motion and relative motion. Development and analysis of motion diagrams. Study of geometric features of gears and gear transmission systems. Prerequisites: MCT 110L, 217 or 220; SET 153. Corequisite: SET 210. *3 sem. hrs.*

MCT 330. DESIGN OF MACHINE ELEMENTS: Analytical design techniques used to evaluate machine elements; stress analysis, working stress, failure theories, fatigue failure; design methods for spur gears, shafts, keys and couplings, roller and journal bearings, and springs. Original design project. Prerequisites: MCT 111, 111L, 221, 313; SET 153. *3 sem. hrs.*

MCT 333L. MECHANICAL MEASUREMENTS: Laboratory evaluations of metal fatigue, stress, strain, noise, vibration, buckling, and nondestructive examination. Utilization of power supplies, transducers, conditioners, amplifiers, recorders; computer data acquisition. Log books and written final reports. Prerequisites: EET 201; MFG 204, 204L; MCT 217, 220, 221. *1 sem. hr.*

MCT 334L. FLUID AND THERMAL LABORATORY: Experiments in fluid mechanics, thermodynamics, and energy conversion. Pressure, temperature, flow, and power measurements using mechanical devices and electronic instrumentation including transducers, sensors, and data acquisition. Prerequisites: MCT 231, 342. *1 sem. hr.*

MCT 336. FLUID POWER: Study of hydraulic and pneumatic fluid power components and systems used in industrial, mobile, and aerospace applications; standard symbols in circuit design; circuit analysis; specification for pumps, valves, cylinders, and circuits; hydraulic fluids; filtration; electric motors; system efficiencies; proportional control and electrohydraulic servo control systems; seals; fluid conductors; pneumatic components and systems. Library research project. Prerequisite: MCT 231. Corequisite: MCT 336L. *3 sem. hrs.*

MCT 336L. FLUID POWER LABORATORY: To accompany MCT 336. Evaluation of fluid power components: pressure, flow, RPM, sound level, current, voltage, power, torque, and time. Graphical design, computational analysis, assembly, and testing of typical circuits and systems. Testing of hydraulic fluids for viscosity, pour point, flash and fire point, specific gravity. Three hours of laboratory a week. *1 sem. hr.*

MCT 342. THERMODYNAMICS: Energy analysis of engineering systems using the concepts and laws of thermodynamics. The principle of the mechanical equivalent of heat, behavior of pure substances, use of thermodynamic property tables, and study of gas mixtures. Application of the Carnot cycle to both heat engines and reversed heat engines. Prerequisites: SET 153, 210. *3 sem. hrs.*

MCT 400. SELECTED MECHANICAL TOPICS: Investigations and discussion of current technical topics in mechanical engineering technology. Research report. May be taken more than once. Prerequisite: Permission of the department chairperson. *1-4 sem. hrs*

MCT 423. PRODUCT DEVELOPMENT: Synthesis of mechanical devices and systems. Emphasis on the integration of various machine elements into a single unit. Activities include design, scheduling, budgeting, purchasing, fabrication, assembly and performance testing of an original team project. Prerequisite: MCT 330. *3 sem. hrs.*

MCT 430. DESIGN OF FLUID POWER SYSTEMS: Energy efficiency; pressure drop determinations, variable volume pressure-compensated pumps, accumulators, proportional and electrohydraulic valves, cylinder design, hydraulic motor selection; circuit design, open and closed loop systems, power unit design; sizing of electric motors; use of industrial data and National Fluid Power Assn.-JIC design standards. Individual design project. Prerequisite: MCT 336. *3 sem. hrs.*

MCT 432. HEAT POWER: Applications of the principles of thermodynamic cycles. Analysis of energy transfer systems such as internal combustion and gas turbine engines. Power generation through steam cycles including reheat and regenerative cycles. Reversed heat engine cycles and vapor compression cycles used in heating and cooling. Prerequisites: MCT 342, SET 153. *3 sem. hrs.*

MCT 433. MECHANICAL DESIGN: Bringing together analytical and graphical techniques from previous courses to accomplish the design of a complete mechanism, machine, or mechanical system. Conceptual, preliminary, and final design; design criteria; decision analysis; scheduling; electric motor selection, fastening, and joining. Written and oral reports. Prerequisite: MCT 330. *2 sem. hrs.*

MCT 438. HEAT TRANSFER: The principles of conduction, convection, and thermal radiation energy transfer. Conduction through series and parallel walls, pipes, and containers. Forced and free convection through films, thermal radiation of energy between surfaces, and the overall transfer of heat. Prerequisites: MCT 231, 342; SET 153. *3 sem. hrs.*

MCT 440. APPLIED VIBRATIONS: Free and forced vibration of single degree of freedom systems with and without damping. Industrial applications including reciprocating and rotating machinery, balancing, isolation, and noise reduction. Demonstrations of vibration sensors and instrumentation. Prerequisites: MCT 217; SET 153, 306. *3 sem. hrs.*

MCT 445. EXPERIMENTAL MECHANICS: Principles of experimental stress analysis and motion measurement using strain gauges, photoelasticity, brittle coatings, accelerometers, and computerized data acquisition and analysis. Computer analysis of strain gauge rosettes to determine principal stresses. Prerequisites: EET 201, SET 153. Corequisites: MCT 330, 445L. *2 sem. hrs.*

MCT 445L. EXPERIMENTAL MECHANICS LABORATORY: Installation of strain gauge rosettes. Experiments to determine the state of strain and stress in structures using strain gauges, photoelasticity, and brittle coatings. Vibration measurement using strain gauges, accelerometers, and motion transducers. Written and oral reports. Corequisite: MCT 445. *1 sem. hr.*

MCT 446. APPLIED FINITE ELEMENT MODELING: Introduction to the fundamentals of structural finite element modeling. Geometry creation, element types, material specification, problem solution and results postprocessing. A focus is placed on modeling techniques using commercially available software. Prerequisites: SET 113, 153, MCT 330. *3 sem. hrs.*



ENGINEERING TECHNOLOGY SERVICE COURSES (SET)

FACULTY

Professor: Strange

Associate Professor: C. Schleppe

COURSES OF INSTRUCTION

SET 101. INDUSTRIAL MATHEMATICS: Review of introductory algebra and other selected mathematical topics. 3 sem. hrs.

SET 112. PRECALCULUS FOR ENGINEERING TECHNOLOGY: Engineering technology applications of linear, polynomial, rational, exponential, logarithmic, and trigonometric functions, triangle trigonometry, vectors and complex numbers. 4 sem. hrs.

SET 113. FINITE MATHEMATICS FOR ENGINEERING TECHNOLOGY: Engineering technology applications of selected topics in finite mathematics such as linear systems, matrices, sets, probability, statistics, finance, logic, and Boolean algebra. Prerequisite: SET 112. 3 sem. hrs.

SET 153. TECHNICAL COMPUTATION: Introduction to computer programming in BASIC, including BASIC statements, input, output, looping, branching, and arrays. 1 sem. hr.

SET 210. CALCULUS I FOR ENGINEERING TECHNOLOGY: Introduction to the basic concepts of differential and integral calculus. The derivative, maxima and minima, differentials, the antiderivative, applications. The definite integral, integration, areas, volumes, centroids, work. Prerequisite: SET 112. 3 sem. hrs.

SET 211. CALCULUS II FOR ENGINEERING TECHNOLOGY: The derivative and antiderivative formulas for composite functions: chain rule, exponential and logarithmic functions, trigonometric functions, integration techniques, conic sections. Introduction of partial derivatives, infinite series, and multiple integrals. Prerequisite: SET 210. 3 sem. hrs.

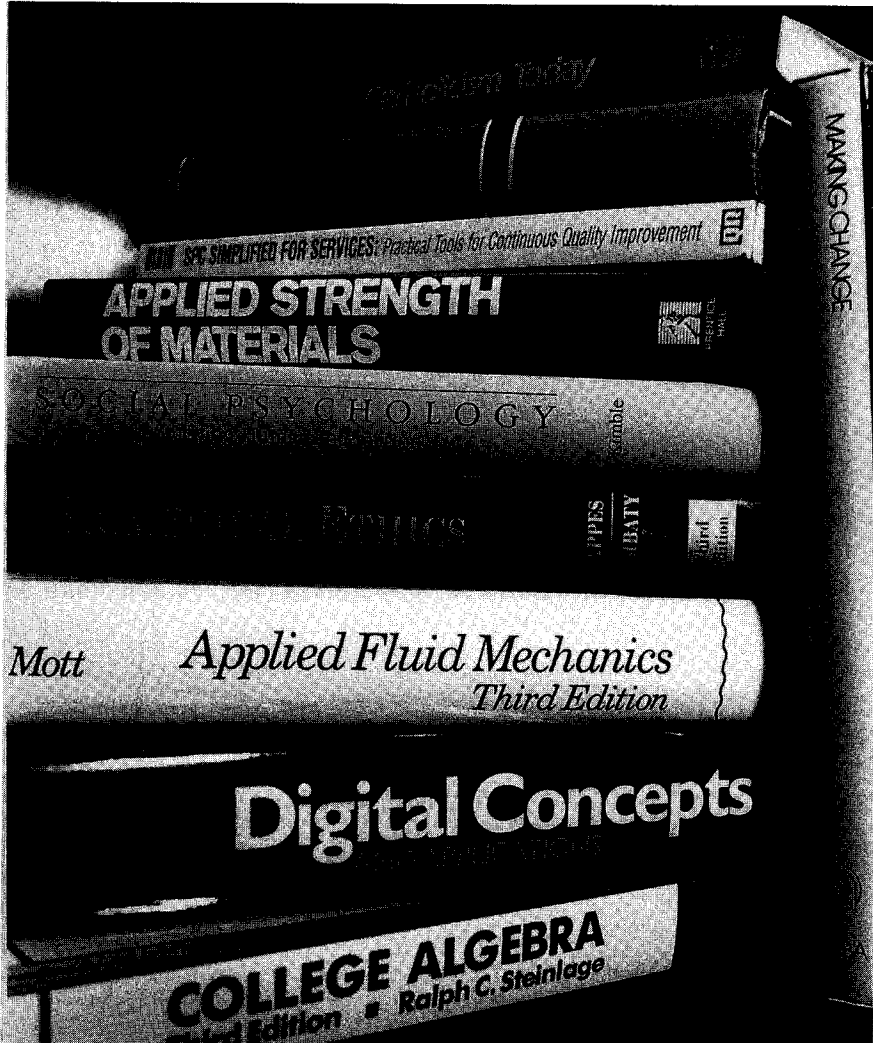
SET 306. DIFFERENTIAL EQUATIONS FOR ENGINEERING TECHNOLOGY: Selected topics from ordinary differential equations including Laplace transforms for solving problems encountered in engineering technology. Prerequisite: SET 211. 3 sem. hrs.

SET 334. TECHNICAL WRITING: Comprehensive treatment of the fundamentals of writing effective technical documentation for industry, including use of technical illustrations and tables. Prerequisite: ENG 102. 2 sem. hrs.

SET 400. SPECIAL TOPICS IN ENGINEERING TECHNOLOGY: Investigation and discussion of current topics in engineering technology. May be taken more than once. Prerequisite: Permission of instructor. 1-4 sem. hrs.

SET 401. DESIGN OF SYSTEMS: An interdisciplinary course in which a team of students solves a complex problem using a three-phased systems approach. Projects vary from term to term, but all are concerned with societal problems, such as transportation, energy, or environment. 3 sem. hrs.

SET 499. SEMINAR: Career planning for engineering technology majors. The job search process, resume preparation, the job interview, professional development. Required of all engineering technology majors in the junior or senior year. 1 sem. hr.



X Interdisciplinary, Experimental, and Special Areas

AFFIRMATIVE ACTION OFFICE

As an integral part of the Office of Human Resources, the Affirmative Action and Employee Development Office, in St. Mary's Hall, Room 122, provides services to all employees, including student employees. The director of Affirmative Action and Employee Development is the University's compliance officer for Affirmative Action/Equal Employment Opportunity (AA/EEO), Title IX of the Education Amendment of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974, and the Age Discrimination Act of 1975.

CENTER FOR CHRISTIAN RENEWAL

The Center for Christian Renewal brings the resources of the University and the Catholic and Christian community into cooperation and dialogue with groups in the local community, the archdiocese, the nation, and the world. The Center is a collaborative effort of the Marianist community, the faculty, staff, and students of the University, and the Church community of the Archdiocese of Cincinnati. Activities of the Center and its constitutive organizations are made possible by the resources, contributed services, and financial support of the Marianist community. The following five organizations carry out the mission of the Center.

CENTER FOR MINISTRY WITH DISABLED PEOPLE

The Center for Ministry with Disabled People affirms that persons with disabilities are an integral part of society with a fundamental value and dignity. It offers programs of spiritual enrichment to persons with disabilities, facilitates their acceptance into more inclusive communities, produces and disseminates resources for these purposes, develops and implements workshops and courses in the field of this ministry, and assists the University of Dayton in its mission to prepare students to be morally aware and committed.

CENTER FOR RELIGIOUS COMMUNICATION (CRC)

Communication is an integral part of the Church's mission and an indispensable tool for achieving its goals of evangelization, education, and spiritual formation. Recent technological developments have confronted the Church with new questions regarding the most effective means of communicating with the modern world and the most appropriate ways of using the new communication technologies. To assist the Church in meeting these needs, the Center for Religious Communication (CRC) has as its primary purpose, to monitor the development of new communication technologies, to assess their potential for Church use, and to design models of effective utilization to meet specific Church needs. CRC offers consultation, courses,

workshops, and seminars; designs and coordinates audio- and video-teleconferences; and aids in the production of religious programs for local and national distribution. Students interested in special projects or internships with the Center are invited to see the executive director of CRC.

OFFICE OF EDUCATIONAL SERVICES

The Office of Educational Services provides assistance to Catholic schools and public school districts to enable school personnel to reach policy decisions based on relevant knowledge and value commitments. "Relevant knowledge" includes financial studies, needs assessments, attitude surveys, enrollment projections, and other information necessary for making intelligent decisions about specific policies. "Value commitments" include consideration of educational aims and ethical questions inherent in policy decisions. One of the priorities of the Office is service to Catholic schools. Another is its effort to act as a network linking those who share value concerns as they relate to educational policy-making. The Office is located in, draws support from, and uses the resources of the School of Education.

OFFICE ON AGING

The Office on Aging (OOA) serves as a witness to the University of Dayton's commitment to address the needs and issues of the older adult population, especially as these relate to spiritual and social welfare. Changes in the number and proportion of older adults in society have numerous and prodigious implications for Catholic and other religious organizations, educational institutions, and families. OOA provides such services as consultation, program development, education, coordination, and planning. It offers workshops and seminars, assists in program design and implementation, and carries out needs assessments. These services are offered directly to the Cincinnati Province of the Society of Mary (Marianists), parishes, professional and lay groups with ministries in gerontology, and University personnel seeking information related to the aging process and the older adult. Students interested in experiential opportunities in the field of gerontology should contact the director of the Office on Aging.

STRATEGIES FOR RESPONSIBLE DEVELOPMENT

Strategies for Responsible Development (SRD) has for its purpose to further social justice through education, outreach, and research. It is motivated by the concern of the Church for economic and social development. It assists the University in directing its purposes—teaching, research, service, and being a critic of society—beyond the campus. SRD offers service to the community and forms partnerships with community organizations and neighborhood groups.

SRD provides technical assistance to neighborhood development corporations involved in housing rehabilitation, historical preservation, community gardening, and economic development. On campus, SRD sponsors forums for students and faculty, the annual CityLinks conference for neighborhood leadership, and neighborhood tours to introduce students and faculty to the problems of development in the inner city of Dayton. Through these activities SRD has helped the University form many partnerships throughout Dayton.

CENTER FOR INTERNATIONAL PROGRAMS

The Center for International Programs provides leadership, coordination, and administrative support for the development of international understanding and sensitivity among the University's faculty, staff, and students through research, study abroad, exchanges, services to international students and scholars, and other programs. It serves in an advisory capacity and as a resource center to assist academic units in strengthening the international dimensions of their curricula. It is also committed to community outreach through conferences, seminars, speakers, and workshops organized in cooperation with the University's academic units and community agencies.

Center faculty development and research activities include the associates program, seminars, and visiting scholars. Center associates are appointed by the director upon the recommendation of the center's advisory board.

The Center coordinates and provides administrative support for study abroad and other international educational programs, including the Third World Immersion program, international internships and service, and the Model United Nations program. The Office of International Educational Programs is a resource center also for information on non-UD sponsored programs.

The Center's Office of International Services handles immigration and credential evaluation matters and provides academic and nonacademic advising, orientation, cultural and other programming services for international students and scholars on campus. It also organizes cross-cultural workshops with faculty and staff to create a supportive environment for international students and scholars.

CENTER FOR THE STUDY OF FAMILY DEVELOPMENT

The Center for the Study of Family Development provides an interdisciplinary minor in family studies within the College of Arts and Sciences. It also promotes, conducts, and disseminates research on contemporary family issues; coordinates an interdisciplinary minor in family development; and serves as a resource to the community and to national Church and professional associations in developing solutions to the problems of families. The center is committed to an integrated perspective on families that draws on both the humanities and the social sciences. See also FDV, Chapter VI.

COOPERATIVE EDUCATION (COP)

Cooperative education is an optional plan of full-time, on-campus study alternating with terms of full-time, off-campus work training. Among the expected benefits to the student are on-the-job experience, career identification, financial assistance, and professional development. The work training terms average seventeen weeks. Three full terms of work training are considered minimum for the program. Students are encouraged to begin their first co-op work experience after their third semester of academic study.

Qualifications for entering and remaining in cooperative education are (1) to be admitted to the University as a full-time undergraduate with the intention of graduating; (2) to be a declared major in one of the academic departments participating in the co-op program; (3) to maintain good academic standing as specified by

the particular academic department; (4) to engage in full-time study and make progress toward the degree during each study term following each full-time work training term; and (5) to be a U.S. citizen or permanent resident of the United States. Placement in a job is not guaranteed since it depends on the student's qualifications and on the availability of jobs.

Cooperative education is currently available as an option to full-time undergraduate majors in the following:

COLLEGE OF ARTS AND SCIENCES: Chemistry (CHM), Computer Science (CPS), Computer Information Systems (CIS), Mathematics (MTH).

SCHOOL OF BUSINESS ADMINISTRATION: All majors are eligible to apply.

SCHOOL OF ENGINEERING: All engineering and engineering technology majors are eligible to apply.

If the cooperative education option becomes available in other majors, notice will be released through the admission counseling staff of the University.

Incoming first-year students or transfer students interested in cooperative education should attend a Co-op New Student Seminar during the new student orientation week in August or attend one of the seminars held in September and January of each year. After each Co-op New Student Seminar, such students may begin the process of entering the program, which includes filing an application and having an initial interview with one of the coordinators. Those who start as first-year students at the University are eligible for placement after completing three terms of full-time study on campus. Transfer students, whether from two-year or four-year institutions, spend one full-time study term on campus after transferring before becoming eligible for the first work-training term.

Further information on the cooperative education program may be obtained by writing or calling the Career Placement Center, University of Dayton, Dayton, Ohio 45469-1110; telephone (513) 229-2045.

CORE

CORE is an interdisciplinary curriculum designed to fulfill and to integrate the University's General Education requirements. Students take ten courses (six in the first-year, three in the second, and one in the third) which fulfill all General Education requirements (except physical and life sciences) as well as the basic skills requirement in reading and writing. Faculty teaching in CORE work together to integrate the material in their courses and encourage students to draw on what they are learning in other CORE classes.

Annually, CORE accepts approximately 150 students with a variety of academic profiles; it is not an accelerated or honors program. All entering first-year students are invited to apply; students in some majors in the College of Arts and Sciences are enrolled automatically.

DEVELOPMENTAL SKILLS (DEV)

Developmental courses are offered by the Learning Assistance Center. (See Chapter II.) Their purpose is to assist students who need additional work in reading, writing, or mathematics. Although credit is attached to these courses, this credit is not applicable toward graduation in any academic program. It is counted, however, in determining class status and eligibility for financial aid.

COURSES OF INSTRUCTION

DEV 050. DEVELOPMENTAL READING AND STUDY SKILLS: Instruction and practice in critical reading and thinking skills necessary to analyze, synthesize and evaluate college-level material; also study skills such as time management, note taking, test taking and textbook reading. *3 sem. hrs.*

DEV 060. DEVELOPMENTAL MATHEMATICS: Mastery review of the skills of arithmetic and basic algebra; math confidence-building, communication of problem-solving principles, and study skills. *3 sem. hrs.*

DEV 070. DEVELOPMENTAL WRITING: Individualized instruction and practice in the writing process with emphasis on developing student abilities in organizing ideas, generating support, and expressing ideas effectively; also basic grammar skills such as sentence structure, usage, and punctuation. *3 sem. hrs.*

GENERAL STUDIES (GEN)

Students who find the traditional programs with departmental majors unsuitable to their purposes, needs, or interests may follow patterns of their own design in choosing courses under the General Studies Program, which leads to the degree of Bachelor of General Studies. See GEN, Chapter VI.

GRADUATE GUIDANCE CENTER

The mission of the Graduate Guidance Center is to assist undergraduate students in determining their needs with respect to graduate schools. The Center has an up-to-date library of graduate school bulletins as well as information on scholarships and fellowships. In addition, it offers help in filing applications and seeking nationally recognized fellowships and scholarships. It can inform students whether they may be eligible for any of these awards and assist them in preparing applications. Any UD undergraduate interested in pursuing graduate studies is encouraged to visit the Center and take advantage of its services.

HOME-STUDY COURSES

Students who wish to accrue academic credit during the summer but find it inconvenient to be on campus for classroom courses during either session of the third term should see the official third-term composite of courses and consult with their advisors for information about the home-study courses that several departments offer. These are conducted by mail on a tutorial or semitutorial basis for students who have proven their ability and their motivation to work alone.

INTERDISCIPLINARY STUDIES

All interdisciplinary and experimental studies at the University of Dayton must involve University students and faculty, must be commensurate with University resources or resources accessible to the University, and must further the recognized goals and purposes of the University. When these studies involve disciplines within the College of Arts and Sciences or one of the Schools, they are administered by or through the offices of the respective deans. When they are University-wide, i.e., inter-school, they are usually administered by the Office of the Provost. See also Interdisciplinary Studies in Chapters VI (ASI), VII (BAI), IX (ENI).

UNIVERSITY INTERDISCIPLINARY STUDIES (UDI)

Courses considered suitable for the UDI designation are submitted for approval to the Committee on Minicourses (COMC), which is accountable to the Provost. UDI courses are administered through University Continuing Education.

The following courses have been offered at least once from the first term of 1991-92 through the second term of 1992-93.

COURSES OF INSTRUCTION

UDI 150M. ACADEMIC ENHANCEMENT SEMINAR: This seminar allows students to explore causes of academic problems, identifying both causes and remedies that impact them personally through group discussion, one-on-one interaction, and teacher-student rapport building. *1 sem. hr.*

UDI 152M. BASIC SIGN LANGUAGE: Introduction to manual communication through fingerspelling, signs, and mime. Information on deaf culture from books, a film, and invited speakers. *1 sem. hr.*

UDI 158M. INTRODUCTION TO CAREER DEVELOPMENT: Survey of career development theories and the world of work. Determining career interests, decision making, and developing a personal plan of action. Some field experience. *1 sem. hr.*

UDI 167M. ELEMENTARY GERMAN: Basic elements of German with emphasis on pronunciation, listening, speaking, and cultural knowledge. *3 sem. hrs.*

UDI 183M. MULTICULTURAL FILM SERIES/DISCUSSION SERIES: Through the medium of popular film and honest discussion, this course will explore racial/cultural and gender issues that plague our society. *1 sem. hr.*

UDI 184M. RUSSIAN FOR CONVERSATION: An intensive study of basic speech patterns, popular expressions and idioms of spoken Russian through conversation lessons and dialogues. *1 sem. hr.*

UDI 202M. ALTERNATIVE CAREERS THROUGH VOLUNTEER INVOLVEMENT: Exploration of the value of volunteer service and its connections to full-time careers. Assessment of skills in service to others; linking of alternate career choices to majors. *1 sem. hr.*

UDI 215M. SEARCHING OUT LIFE AND FAITH PATTERNS: Through class presentations and discussions, journal keeping, and weekly meetings with a facilitator, students reflect upon where they are on their spiritual and life journeys. *2 sem. hrs.*

UDI 219M. THE ART OF LEADERSHIP: A course designed to better prepare students for positions of leadership by providing a base of theoretical knowledge and opportunity to further develop organizational and interpersonal skills through assessment and practice. The course stresses the value of ethics and morals in leadership. *1 sem. hr.*

UDI 230M. EMPOWERMENT FOR CHRISTIAN LEADERSHIP AND SERVICE: The central purpose of this course is to help the student develop his/her leadership potential for making a difference in social problems that exist in the community by looking at leadership theories and applying them to the major social problems of our time. *1 sem. hr.*

Special Areas

UDI 232M. RESPONSIBILITY IN A HUNGRY WORLD: Survey of the complexities of world hunger. Strategies for responsible action to alleviate hunger in the U.S. and abroad. *1 sem. hr.*

UDI 249M. REFLECTIONS ON COMMUNITY SERVICE: This service-learning minicourse combines community service with reflection. Requirements include 20 hours of meaningful service, an observational/reflections journal, required readings, and class discussions on related issues. *1 sem. hr.*

UDI 279M. DEMOCRACY AT RISK: Issues and problems that form a backdrop for the 1992 election. Examination of the health of democracy in the United States. Documentary videos and the PBS series "Listening to America" will comprise the course's content. *1 sem. hr.*

UDI 322M. STRATEGIES FOR SUCCESS IN HIGHER EDUCATION: A course designed to help adult learners clarify and attain educational goals in less time and with less stress. The course focuses on issues as identified by adults as crucial to their academic success. These include: time management, planning, classroom strategies, learning groups and networks, support systems, critical thinking, listening, taking notes, and test taking. In short, this course is about "negotiating the academic process." *1 sem. hr.*

INTERNATIONAL MARIAN RESEARCH INSTITUTE

To facilitate and encourage Marian Studies in the United States and abroad, the International Marian Research Institute (IMRI) was founded in 1975 at the University of Dayton in affiliation with the Roman Pontifical Theological Faculty Marianum. Housed in the Marian Library, IMRI offers annual graduate-level summer schools on a three-year cycle to promote the programs of Marian Studies established by the Marianum. Through IMRI, students can work toward a Pontifical Licentiate of Sacred Theology (S.T.L.) or Doctorate of Sacred Theology (S.T.D.)—each with specialization in Mariology—a certificate in Marian Studies, or a master's degree in religious studies with specialization in Mariology from the University's Department of Religious Studies, offered in a joint program. Course offerings include studies in Mariology, Christology, ecclesiology, spirituality, and theological anthropology.

Recognized as one of the world's leading centers for Mariological studies, the International Marian Research Institute also is involved in the promotion of the arts, continued scholarly research, and the planning of workshops. The faculty are theologians expert in scripture, Mariology, spirituality, ecclesiology, patristics, and Christology. World-renowned theologians often join the faculty as guest teachers or lecturers.

Admission is approved by the director of IMRI and an advisory council.

MARIAN LIBRARY

The Marian Library, on the seventh floor of the Roesch Library, houses the world's largest collection of theological, artistic, and devotional literature dedicated to the Virgin Mary. Scholars from many nations have been using its resources, which include 75,000 books and pamphlets in over fifty languages (several thousand printed before 1800), runs of 125 periodicals, a clipping file of 52,000 items, some 200 microforms, and a large philatelic collection, as well as medals, slides, photographs,

and other pictorial materials. This assemblage of Mariana is supplemented by national and regional bibliographies, reference tools for studies of the Bible, and works on the history of printing, ecclesiastical and dogmatic history, and Christian art, with special emphasis on the art of the Eastern Churches and medieval Europe. A Ukrainian collection of Marian art and literature was begun in 1981.

Professors can make arrangements for special class sessions at the Marian Library on such topics as the history of printing, Christian art, and the development of Marian devotion. The Marian Library features exhibits of its holdings and sponsors occasional lectures by visiting speakers.

The Library's scholarly multilingual annual, *Marian Library Studies*, promotes the renewal and development of scientific studies in Mariology by integrating them with other spheres of research such as the critical edition of texts, historical bibliography, and comparative studies in theology, psychology, and religious anthropology.

MINICOURSES

Minicourses are special, short-term, interdisciplinary credit courses developed by University faculty, (or sometimes by students with the advice and consent of a faculty member), to meet specific, sometimes highly current needs or interests not provided for in the regular curricula. They are free of charge to all full-time students, even if the course puts them over the full-time limit, and are open to part-time and non-UD students for credit or audit. The minicourse program is administered by University Continuing Education. The typical minicourse carries one semester hour of credit, or fifteen class hours. Classes can be in various sequences, extending over several weeks or concentrated within a few days. Some minicourses take the form of workshops. Occuring at various times in the year, minicourses are publicized throughout campus. They can be added to students' schedules during the term. For a sample listing of minicourses, see University Interdisciplinary Studies (UDI).

OFFICE FOR COMPUTING ACTIVITIES

The University's Office for Computing Activities (OCA) operates several time-sharing computers and microcomputers for the benefit of students, faculty, and staff as well as for academic support services, the registration process, and many other administrative functions. In addition, access to the Ohio Supercomputer Center is available for large projects.

Various academic departments offer courses that require the use of a computer. More than 18 departmental computer laboratory's exist on the campus, in addition to a VAX time sharing system. VAX computer account numbers may be applied for at the Office for Computing Activities, Miriam Hall 300. The Bookstore sells manuals produced by the staff to explain the Computer Center's equipment and how to use the computer systems.

Student dispatchers, consultants, and technicians are hired each year to assist the staff in providing computing service to the University community. Students interested in working as any of these are encouraged to visit the assistant director for microcomputing services, the assistant director for academic computing, or the director of OCA.

PRELAW

The Prelaw Program, designed to serve students from all areas of the University, provides those interested in law school with the opportunities to acquire the knowledge and skills necessary for a successful legal career. While students interested in careers in law should choose their undergraduate majors in accord with their interests and abilities, they should also contact the Prelaw Program as early in their undergraduate careers as possible so they can receive effective prelaw advice.

The Prelaw Program, with its six prelaw advisors, provides students with suggestions for courses that help develop skills needed for legal education, with information about the law school admission process, and with aid in taking the Law School Admission Test (LSAT) including simulated tests and prep courses. In addition, the Program sponsors a prelaw internship where students work at legal duties in an attorney's office, a mock trial program where students compete locally, regionally, and nationally, and intensive counseling on an individual basis.

For further information concerning the Prelaw Program at the University of Dayton, students should contact the Prelaw Program secretary in O'Reilly Hall.

RESEARCH INSTITUTE

The University includes research as one of its stated purposes. In addition to faculty members in academic departments, a large staff of research scientists, engineers, and technicians conduct basic and applied research. Most of these activities are externally funded and are conducted in the laboratories of the University of Dayton Research Institute.

Several hundred students are employed on research programs in accord with the University's emphasis on integration of research and instruction. In addition to financial benefits, this research participation provides students with valuable experience and an exposure to issues at the forefront of contemporary science and engineering.

RESERVE OFFICERS TRAINING CORPS (ROTC)

The Department of Military Science offers the Army ROTC training program on campus, leading to a commission as a second lieutenant in the U.S. Army at the time of graduation. See MIL, Chapter VI.

STUDY ABROAD

AUGSBURG EXCHANGE PROGRAM

Students in the School of Business Administration are eligible to participate in an exchange program with the University of Augsburg in Germany. Twenty business students spend eleven weeks each summer in Augsburg taking courses from both University of Dayton and University of Augsburg faculty. Classes are taught in English, although some knowledge of German is desirable. Students may reside in dormitories or apartment units or with host German families. Augsburg and Dayton are sister cities, and the sister city organizations facilitate cultural exchanges while

students are in Augsburg. Students are given the opportunity to visit and have discussions with executives of German firms. In addition, several Augsburg students attend the University of Dayton during the regular semesters in the graduate program in business and assist with the exchange program.

INTERDEPARTMENTAL SUMMER STUDY ABROAD PROGRAM

The Interdepartmental Summer Study Abroad Program (ISSAP) was established in 1972 to give students from all majors the opportunity to study and experience one or more foreign cultures. The program is open to anyone attending or eligible to attend the University of Dayton. The program sites, which vary from year to year, are major European cities. Students spend nearly one month at each of the sites with University of Dayton professors and may choose to attend at one, two, or three of the sites. Various courses are offered at each site, and a variety of disciplines are represented each year. A three-site participant can complete a full semester of course work abroad.

In the past, ISSAP students have studied in Athens, Dublin, Florence, Fribourg, London, Madrid, Munich, Paris, Rome, and Vienna, where they have taken courses in art history, business, communication, foreign languages, history, literature, music, philosophy, photography, political science, religious studies, and sociology. Special study tours of Eastern Europe have also been an option for ISSAP students. For more information, contact the Center for International Programs.

SUMMER STUDY IN MARBURG

The Summer Study Program in Marburg, Germany, provides a month-long experience of living and studying in a German setting. Students take two classes, one with German professors of the Lessing Kolleg and another with the accompanying University of Dayton professor. Program participants live either in a dormitory or with families. Two excursions—one full-day and one half-day—are planned for the group. Because students are expected to use German exclusively, completion of intermediate German or the equivalent is required.

SUMMER STUDY IN MEXICO

The Summer Study in Mexico Program provides an intensive, thirty-day program of immersion in Cuernavaca, where program participants live with Mexican families. Students take two courses with the accompanying University of Dayton professor and Spanish professors at the Cemanahuac Comunidad Educativa. Excursion outside Cuernavaca include a visit to Tepoztlán, Taxco, Xochicalco, Teotihuacán and Mexico City. This program is available to students who have completed elementary Spanish II or the equivalent.

SUMMER STUDY IN PARIS

The Summer Study in Paris Program, begun in 1977, is available only to students who have completed intermediate French II or the equivalent. In addition to an

intensive French language course, students take a second course on a topic based on the available local culture such as French cinema, theatre, arts, and crafts; historical Paris; and France and the French. Visits to important sites near Paris (Versailles, Fontainebleau) and trips elsewhere in France (Mont Saint Michel, Nice, Lourdes) are worked in to the curriculum.

SUMMER STUDY IN SEGOVIA

The Summer Study in Segovia Program is a thirty-day program of total immersion in a Spanish environment. The academic program includes intensive language study as well as courses in culture and literature. To complement their course work, students visit museums, theaters, palaces, and castles in and near Segovia and take tours to such historical sites as Madrid, Toledo, and El Escorial. This program, in which participants are required to use Spanish at all times, is available only to students who have completed intermediate Spanish II or the equivalent.

UNIVERSITY CONTINUING EDUCATION

University Continuing Education serves adults of the Dayton community who are not full-time students. It introduces them to, and facilitates their entry into, courses and programs the University offers that they may find useful for any number of their own purposes. It helps them adapt the University's broad range of academic offerings to their personal schedules, interests, and goals.

In addition, University Continuing Education provides a variety of noncredit courses, many in the form of workshops, seminars, study tours, conferences, and teleconferences. These are planned to meet the educational and training needs of organizations and of the community and are held both on and off campus. This office also administers Elderhostel and Senior Fellows, for persons sixty and over. Continuing Education Units (CEU) are awarded for some offerings.

UNIVERSITY HONORS

The University Honors Program provides unique opportunities for academically gifted undergraduate students to develop their skills and talents in a supportive educational environment. Each year a limited number of entering first-year students from the four undergraduate divisions—Arts and Sciences, Business Administration, Education, and Engineering—are selected from the pool of applicants. Participation in the program entitles these students to numerous benefits and privileges, including eligibility for honors scholarships.

The honors curriculum consists of a sequence of five honors seminars and a thesis. In most instances the seminars fulfill University requirements and fit well into each student's regular course of study. The honors thesis is a major research project selected by the student in the junior year and completed before graduation. Honors research grants are available to cover housing expenses, travel, and supplies. All honors students are expected to maintain a 3.0 grade-point average.

UNIVERSITY SCHOLARS

The University Scholars Program provides curricular offerings, programming, and benefits to undergraduates who have superior academic records. Students earn the designation "University Scholar" in one of two ways. Entering first-year students with outstanding credentials are automatically accepted into the Scholars Program. (They are also eligible to apply for admission to the Honors Program.) Matriculated students who have achieved a 3.5 grade-point average at the end of their first, second, or third years are also designated University Scholars. All Scholars are expected to maintain at least a 3.0 grade-point average.

University Scholars are offered a wide selection of courses each term, ranging from special sections of General Education courses to senior-level seminars. While enrollment in Scholars courses is not mandatory in most instances, first-year University Scholars will usually be placed in English 114. In addition, the program sponsors numerous speakers, cultural events, and at least one symposium each year. Special housing is available for a limited number of Scholars. Upperclass students who have completed at least two Scholars courses are eligible to apply for grants to support their professional and academic development.



XI Directories

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Director, Center for Christian Renewal	George A. Deinlein, S.M.
Director, University Continuing Education	TBA

ACADEMIC DEPARTMENTS

	<i>Chairpersons</i>
Accounting	Ronnie J. Burrows
Biology	John J. Rowe
Chemical and Materials Engineering	James A. Snide
Chemical Technology	David I. Gross
Chemistry	Albert V. Fratini
Civil and Environmental Engineering and Engineering Mechanics	Fred K. Bogner
Communication	Thomas D. Skill
Computer Science	TBA
Counselor Education and Human Services	Eugene K. Moulin
Economics and Finance	Ralph R. Frasca
Educational Administration	William R. Drury
Electrical Engineering	Donald L. Moon
Electronic Engineering Technology	Joseph M. Farren
Engineering Management and Systems	Patrick J. Sweeney
English	James P. Farrelly
Geology	Charles J. Ritter
Health, Physical Education, and Sport Science	Donald W. Morefield
History	John A. Heitmann
Human Ecology	Julia A. Palmert
Languages	Andria J. Chiodo
Management and Marketing	William S. Sekely
Management Information Systems and Decision Sciences	E. James Dunne
Mathematics	Thomas E. Gantner
Mechanical and Aerospace Engineering	TBA
Mechanical Engineering Technology	Philip E. Doepker
Military Science	Major James A. Roy
Music	Linda J. Snyder
Philosophy	Patricia A. Johnson
Physics	J. Michael O'Hare
Political Science	David W. Ahern
Psychology	F. Thomas Eggemeier
Religious Studies	Joseph F. Kozar, S.M.
Sociology, Anthropology, and Social Work	Fred P. Pestello
Teacher Education	Roberta Weaver
Visual Arts	Sean Wilkinson

ACADEMIC PROGRAMS

	<i>Directors</i>
American Studies	Francis J. Henninger
Criminal Justice	James A. Adamitis
Industrial Engineering Technology	James F. Courtright
International Studies	Margaret P. Karns
Manufacturing Engineering Technology	Robert L. Wolff
Medical Technology	Suzanne L. Columbus
Premedical and Pre dental Studies	Charles J. Chantell

CENTER FOR CHRISTIAN RENEWAL

Executive Director	George A. Deinlein, S.M.
Director, Office on Aging	Jack P. McDonald
Director, Office of Educational Services	Donald J. Frericks
Director, Ministry with Disabled People	Marilyn E. Bishop
Director, Center for Religious Communication	Angela Ann Zukowski, M.H.S.H.
Director, Strategies for Responsible Development	Joanne M. Troha

UNIVERSITY LIBRARIES

Director of University Libraries	Rev. Edward D. Garten
Associate Director for Public Services	Robert E. Montavon
Coordinator of Information Services	Linda Simons
Coordinator of Access Services	Sondra L. Taylor
Associate Director for Technical Services	Nicoletta C. Hary
Coordinator of Periodical Acquisitions and Building Coordinator	David Buckley
Coordinator of Bibliographic Control	Susan Tsui
University Archivist	Kerrie A. Moore
Director of University Media Centers	Duane Semler
Director of the Marian Library	Rev. Thomas A. Thompson, S.M.

RESEARCH

Vice President for Graduate Studies and Research and	
Dean of Graduate Studies	Gordon A. Sargent
Associate Vice President for Research and	
Director, Research Institute	Joseph Rowe
Associate Director, Research Operations	John C. Wurst
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Supervisor, Electrical and Computer Engineering	Dennis D. Stafford
Supervisor, Experimental and Applied Mechanics	George J. Roth
Supervisor, Materials Engineering	Dennis A. Gerdeman
Supervisor, Metals and Ceramics	John A. Detrio
Supervisor, Nonmetallic Materials	Kenneth A. Davis
Supervisor, Structural Integrity	Joseph P. Gallagher
Associate Director, Technology Commercialization	Lloyd Huff
Associate Director, Research Administration	Robert P. Boehmer
Accounting Administrator	John U. Weckesser
Contracts and Grants Administrator	Claudette M. Spanel
Human Resources Administrator	Robert E. Artman
Purchasing Agent and Property Administrator	Sigmund W. Brzezicki

Technical Editor	Ruth A. Rodak
Technical Information Services Supervisor	Judith N. Hecht
Security and Export Contract Administrator	M. Francina Lester
Faculty Liaison	Kitayun E. Marre
Senior Research Scientist	Ival O. Salyer

CAMPUS MINISTRY

Director	Rev. Christopher W. Conlon, S.M.
Assistant Director, Residence Life	Sr. Laura Leming, F.M.I.
Assistant Director, Social Concerns	Sr. Nancy Bramlage, S.C.
Campus Ministers	Nicholas Cardilino
	Sr. Eileen Cehyra, F.M.I.
	Rev. Gerald Chinchar, S.M.
	Mark Chronister
	Rev. Gene Contadino, S.M.
	Sr. Mary Louise Foley, F.M.I.
	Rev. Robert E. Hogan, S.M.
	Rev. Joseph H. Lackner, S.M.
	Kathleen Longhouse
	Margaret Matley
	Christine Moloney
	Sr. Kathleen Rossman, O.S.F.
	Rev. James A. Russell, S.M.
	Patricia Sills-Trausch
	Allen Stock
	Patti Stock

ADMINISTRATION

Senior Vice President for Administration	Bernard J. Ploeger, S.M.
Vice President for Financial Affairs and Treasurer	Thomas E. Burkhardt
Comptroller	Thomas J. Weckesser
Assistant Comptroller	Davidine Rinehart
Accounts Payable	Barbara A. McCloskey, Barbara A. August, Crystal A. Hempker
Bookkeeping	Betty M. Hill, Barbara L. Sturgeon
Payroll Manager	Robin A. Steberl
Payroll Clerk	Leona Hite
Director of Budgets	Joseph M. Garcia
Budget Analyst	Lisa S. Mastrobuono
Staff Accountants	Kathleen P. Dolan, Angela K. Stachler
Bursar, Coordinator of Pricing Policies	Nancy V. Graft
Assistant Bursar for Cashiering	Deborah A. Kelly
Head Teller	Margaret A. Wolff
Clerical Supervisor	Gwendolyn L. Klemmer
Assistant Bursar for Student Loans	Julie E. Bruns
Financial Administrator, Perkins Loans	Edward M. McCormick
Director of Purchases and Business Services	Ken R. Soucy
Assistant Purchasing Manager	Karon Holzapfel
Coordinator, Postal Operation	Denise Dobberstein
Postmaster	Thomas E. Seifert
Supervisor, Central Receiving	Henry O. Gober
Assistant Supervisor, Central Receiving	Vincent P. Seifert
Manager, UD Bookstore	Mary Lynn Naughton

Assistant Managers	Jo Lynn Fitzharris, Kirsten Means
Manager, UD Printing and Design	Eugene A. Schwieterman
Assistant Manager	Robert L. Brown
Foreman	Michael D. Purk
Internal Auditor	L. Patrick Ryan
Investment Officer	Patricia A. Johnson
Director of UD Children's Center	Mary Jane Kelleher
Office Supervisor	Carol S. McDermott
Director of Office for Computing Activities	Ronald L. McAdams
Special Assistant to the Director	Albert J. Roemer
Assistant Director for Administrative Computing	Robert C. Zinck
Assistant Director for Academic Computing	James Baccus
Assistant Director for Telecommunications	William A. Honingford
Assistant Director for Computer Operations	John C. Turner
Assistant Director for Microcomputing	Betty J. Rose
Director of Facilities Management	Robert V. Rottermann
Assistant Director for Maintenance and Operations	James R. Hogue, Jr.
Custodial Services	Alpha-Omega
Energy Management	Russell A. Potyrala
Planning and Work Control	Duane M. Plessinger
Assistant Director of Facilities Management for Design	Beth H. Keyes
Interior Space Designer	Leslie A. Gordon
Grounds Manager	E. Roger Banks
Director of Human Resources	Charles E. Chamberlain
Assistant Director for Benefits	Cheryl S. Lindsey
Assistant Director for Employment	Daniel J. Giner
Assistant Director for Records	Helen L. Gross
Director of Affirmative Action and Employment Development	Curtis Hicks
Director of Institutional Studies	Patricia P. Detzel
Research Assistant	Susan K. Sexton
Director of Legal Affairs/University Counsel	John E. Hart
Special Assistant for Legal Affairs	Susan A. Fuchs
Environmental Safety Administrator/Insurance Coordinator	Sandra F. Kulik

STUDENT DEVELOPMENT

Vice President for Student Development and Dean of Students	William C. Schuerman
Assistant Vice President	Rosemary T. O'Boyle
Assistant Vice President: Residential Services	Joseph A. Belle
Associate Dean of Students: Residential Programs	Carol Cummins-Collier
Associate Dean of Students: Special Student Populations	Debra P. Moore
Associate Dean of Students: Human Services	John E. Riley
Director, Counseling Center	Steven D. Mueller
Director, Special Programs	Louis B. Fred
Director, Learning Assistance Center	James J. Melko
Medical Director	John H. Dirckx, M.D.
Director, Kennedy Union	Eleanor A. Kurtz
Director, Public Safety	John J. Delamer
Director, University Food Services	TBA
Director, Student Activities	TBA
Assistant Dean of Students: Discipline and Judicaries	Mary Sue Hufnagle

UNIVERSITY ADVANCEMENT

Vice President for University Advancement	Frances E. Ary
Director of Development	Timothy J. Wabler
Director, Corporate/Foundation Relations	Len Roberts
Director, Development Research	Julie Dannemiller

Director, Donor Relations	Sharon O'Brien
Director Annual Funds	William Hunt
Coordinator, Special Events	Abigail Burns
Director, Alumni-Parent Relations	Regis J. Lekan
Assistant Director, Parent Relations	Eileen Cunningham
Assistant Director, Alumni Relations	Richard K. Munn
Director, Public Relations	Teri J. Rizvi
Director, Publications	Deborah McCarty Smith
Assistant Director, Publications	Thomas M. Columbus
Senior Publications Editor	Kathleen A. Cassidy
Publications Editor	Donna L. Hamilton
Art Director	Frank E. Pauer
Photographer	Larry S. Burgess
Graphic Designer	TBA
Director, Media Relations	TBA
Assistant Director, Media Relations	Pamela J. Huber

ATHLETIC PROGRAMS AND FACILITIES

Director of Athletics	Theodore L. Kissell
Head Basketball Coach (Men's)	James F. X. O'Brien
Assistant Coaches	Doc Conroy, David Bollwinkel
Head Football Coach	Michael Kelly
Assistant Coaches	Ricky Chamberlain, James Smerz, David Whilding
Basketball Coach (Women's)	Susan Ramsey
Assistant Coaches	Tammy Stritenberger, Joe Gural
Senior Associate Director	R. Elaine Dreidame
Associate Director, Team Services	Eugene W. Schill
Men's Trainer	Steve Foster
Women's Trainer	Katherine R. Newsham
Team Physicians	Arthur Bok, D.O., Tom Kramer, D.O., Tim Quinn, M.D.
Strength and Conditioning	Joe Owens
Associate Director for Non-Revenue	Kenneth J. Keck
Baseball Coach	Mark Schlemmer
Golf Coach (Men's)	Jim Larkin
Golf Coach (Women's)	Trish Kroeger
Soccer Coach (Men's)	Roy Craig
Cross Country Coach (Men's)	Carl Vogel
Water Polo Coach	Sean Geehan
Tennis Coach (Men's)	Bill Krebs
Wrestling Coach	Ernie McCallister
Volleyball Coach (Women's)	Julie Biermann
Soccer Coach (Women's)	Bill Glisson
Softball Coach (Women's)	Daryl Ogg
Tennis Coach (Women's)	Mike Unger
Cross Country Coach (Women's)	Pat Miller
Sports Information Director	Doug Hauschild
Director of Recreational Sports	Billy R. Mayo
Assistant Director	David B. Ostrander
Assistant Director	Donn Shade
Assistant Director	Cal Layton
Associate Director for Business & Operations	Thomas J. Westendorf
Arena Manager	Joseph M. Eaglowski
Assistant Arena Manager	Kimberly K. Knight
Ticket/Promotion Manager	George F. McCans
Box Office Manager	Joseph Granito
Director of Athletic Fund Raising	James E. Paxson

FACULTY

DEAN EMERITUS

Hoben, William J. (1956), *Accounting* — B.S., University of Dayton, 1950; M.B.A., Xavier University, 1960; C.P.A., Ohio, 1960.

PROFESSORS EMERITI

Beauregard, Erving E. (1947), *History*—A.B., University of Chicago, 1942; M.A., University of Massachusetts, 1945; Ph.D., Union Institute, 1976.

Cochran, Bud T. (1958), *English* — B.A., College of Steubenville, 1955; M.A., Ohio State University, 1957; Ph.D., 1967.

Comer, Orville L. (1950), *Marketing*—B.S., Washington University, 1948; M.S., 1949.

Darr, John W. (1969), *Management*—B.S., Indiana University, 1949; M.B.A., 1950; Ph.D., University of Alabama, 1957.

Deibel, Francis A., S.M. (1954), *Library*—A.B., University of Dayton, 1929; B.S.L.S., Western Reserve University, 1943.

Dieska, Joseph L. (1960), *Philosophy*—B.A., State Gymnasium, Czechoslovakia, 1931; M.A., University of Bratislava, 1939; Ph.D., 1940.

Eveslage, Sylvester L. (1948), *Chemistry*—B.S., University of Notre Dame, 1944; M.S., 1945; Ph.D., 1953.

Frye, Helen B. (1967), *Teacher Education*—B.A., Ohio Wesleyan University, 1944; M.Ed., Wittenberg University, 1962; Ph.D., Ohio State University, 1967.

George, Norman (1962), *Law* — Ohio State University, 1950; M.B.A., University of Pittsburgh, 1954; Ph.D., Ohio State University, 1962; J.D., Salmon Chase College, 1967.

Grob, M. Audrey (1961), *Teacher Education*—B.S., University of Dayton, 1942; M.A., 1948; Ph.D., Catholic University of America, 1961.

Hazen, Richard R. (1953), *Electronic Engineering Technology*—B.E.E., University of Dayton, 1953; M.S., University of Cincinnati, 1962. Reg. Prof. Engr.

Jehn, Lawrence A. (1946), *Computer Science*—B.M.E., University of Dayton, 1943; M.S., University of Michigan, 1949. Reg. Prof. Engr.

Kester, Jack E. (1966), *Computer Science* — B.S., University of Dayton, 1952; M.S., Ohio State University, 1958.

King, Edwin R. (1953), *History*—B.S., University of Dayton, 1949; M.A., Western Reserve University, 1950.

Klosterman, Rita (1960), *Teacher Education*—B.A., Immaculate Heart College, 1942; M.A., St. John's College, 1956; Ph.D., Indiana University, 1968.

Koehler, Rev. Theodore A., S.M. (1969), *Library*—Lic. Litt., University of Strasbourg 1934; Lic. ThL., University of Fribourg, 1942.

Faculty

- Kubach, Reinhold W. (1958), *Electrical Engineering*—B.E.E., Staatliche Ingenieurschule, Esslingen, 1947; M.S.E., University of Dayton, 1966.
- Labadie, Patricia B. (1959), *English* — B.A., University of Washington, 1946; M.A., Miami University, 1961; Ph.D., University of Cincinnati, 1974.
- La Vanche, James B. (1957), *Health, Physical Education and Sport Science*—B.A., Emory and Henry College, 1948; M.S., West Virginia University, 1952.
- McCarthy, Rev. Adrian J., S.M. (1958), *English*—A.B., University of Dayton, 1934; M.A., New York University, 1953; Ph.D., Fordham University, 1961.
- McGraw, James L. (1952), *Industrial Engineering Technology*—B.S.I.E., Lafayette College, 1951; M.B.A., Xavier University, 1960.
- Mann, Leonard A., S.M. (1945), *Physics*—B.S., University of Dayton, 1937; M.S., Ohio State University, 1945; Ph.D., Carnegie-Mellon University, 1954.
- Maras, Raymond J. (1959), *History*—B.A., University of California, 1946; M.A. Catholic University of America, 1948; Ph.D., University of California, 1955.
- Mathias, Frank F. (1963), *History*—A.B., University of Kentucky, 1950; M.A., 1961; Ph.D., 1966.
- Michaelis, Carl I. (1954), *Chemistry*—B.A., University of Kansas, 1945; M.A., 1947; Ph.D., University of Florida, 1953.
- Murphy, Lorraine M. (1953), *English*—B.A., Augustana College, 1946; M.A., Miami University, 1962.
- Nartker, Raymond H. (1962), *Library*—B.A., University of Dayton, 1942; M.S.L.S., Western Reserve University, 1955.
- Nersoyan, H. James (1967), *Philosophy*—Baccalaureate, College Champagnat des Freres Maristes, 1939; S.T.B., Berkeley Divinity School, 1949; Ph.D., Columbia University, 1966.
- Palumbo, Suzanne D. (1965), *English*—B.A., Northwestern University, 1957; M.A., University of Dayton, 1965.
- Patyk, Josef (1963), *Political Science*—Certificate, School of Public Administration, Poland, 1935; LL.M., Jagiellonski University, 1945; Ph.D., University of Colorado, 1965.
- Petit, Sister Loretta M., O.P. (1968), *Teacher Education*—B.A., Siena Heights College, 1942; M.A., Catholic University of America, 1949; D.Ed., Western Reserve University, 1966.
- Purcell, Sylvia S. (1967), *Library*—A.B., University of Illinois, 1940; M.A.L.S., Kent State University, 1955.
- Ray, Alden E. (1961), *Mechanical and Aerospace Engineering*—B.A., Southern Illinois University, 1953; Ph.D., Iowa State University, 1959.
- Rhodes, Rev. Edmund L., S.M. (1947), *Philosophy*—A.B., University of Dayton, 1934; S.T.L., Catholic University of America, 1942.
- Schroeder, Elizabeth (1950), *Human Ecology*—B.S., College of Mt. St. Joseph-on-the-Ohio, 1942; M.S., Ohio State University, 1958.
- Staub, Albert E. (1956), *Engineering Technology* — A.B., University of Missouri, 1951; M.A., Miami University, 1963.
- Steiner, Wilfred J. (1946), *History* —A.B., Loras College, 1936; M.A., Harvard University, 1938; Ph.D., Ohio State University, 1957.

- Thomson, Robert A. (1952), *Civil and Environmental Engineering and Engineering Mechanics*—B.S. in Ed., University of Dayton, 1950; B.M.E., 1954; Ph.D., Illinois Institute of Technology, 1958. Reg. Prof. Engr.
- Vines, Alice G. (1969), *History*—B.A., B.S. in Ed., University of Cincinnati, 1960; M.A., 1961; Ph.D., 1975.
- Wilder, Jesse H. (1953), *Mechanical Engineering Technology*—B.S.M.E., Duke University, 1947; M.S., State University of Iowa, 1949. Reg. Prof. Engr.
- Wolff, Florence I. (1969), *Communication*—B.S., Temple University, 1941; M.Ed., Duquesne University, 1967; Ph.D., University of Pittsburgh, 1969.

DISTINGUISHED SERVICE PROFESSORS

- Chudd, Cletus C., S.M. (1947), *Chemistry*—B.S., University of Dayton, 1935; M.S., Western Reserve University, 1948; Ph.D., 1952.
- George, Norman (1962), *Law*—Ohio State University, 1950; M.B.A., University of Pittsburgh, 1954; Ph.D., Ohio State University, 1962; J.D., Salmon Chase College, 1967.
- Kohmescher, Rev. Matthew F., S.M. (1951), *Religious Studies*—A.B., University of Dayton, 1942; S.T.D., University of Fribourg, 1950; M.A., Western Reserve University, 1956.
- Lucier, John J., S.M. (1945), *Chemistry*—B.S., University of Dayton, 1937; M.S., Western Reserve University, 1950; Ph.D., 1951.
- Murphy, Harry C. (1950), *Marketing*—B.B.A., University of Minnesota, 1948; B.S., 1949; M.A., 1951.
- Noland, George B. (1955), *Biology*—B.S., University of Detroit, 1950; M.S., 1952; Ph.D., Michigan State University, 1955.
- Ryckman, Seymour J. (1959), *Civil and Environmental Engineering and Engineering Mechanics*—B.S., Michigan State University, 1939; M.S., University of Missouri, 1942. Reg. Prof. Engr.
- Schmidt, Bernhard M. (1948), *Electrical Engineering*—B.E.E., University of Dayton, 1942; M.S., Ohio State University, 1957; Ph.D., 1963. Reg. Prof. Engr.
- Schraut, Kenneth C. (1940), *Mathematics*—A.B., University of Illinois, 1936; M.A., University of Cincinnati, 1938; Ph.D., 1940.
- Springer, George H. (1946), *Geology*—A.B., Brown University, 1938; ScM., 1940.
- Stick, Henry H. (1975), *Economics and Finance*—B.S., U.S. Military Academy, 1945; M.B.A., University of Pennsylvania, 1951; Ph.D., Ohio State University, 1957.

RANKED FACULTY

- Aaron, Philip T., S.M. (1979), *International Studies Program*, Assistant Professor (Administrative)—B.S., University of Dayton, 1954; M.S., St. Louis University, 1964; Ph.D., Case Western Reserve University, 1973.
- Achbach, Myron H. (1969), *Director of Admission*, Assistant Professor (Administrative)—B.A., University of Dayton, 1958; M.A., Western Reserve University, 1966.
- Adamitis, James A. (1970), *Criminal Justice*, Associate Professor—B.A., Kent State University, 1965; M.A., 1967; Ph.D., Miami University, 1981.

Faculty

- Agarwal, Ritu (1988), *Management Information Systems and Decision Sciences*, Associate Professor—B.A., Delhi University, 1982; P.G.D.M., Indian Institute of Management, Calcutta, 1984; M.S., Syracuse University, 1988; Ph.D., 1988.
- Ahern, David W. (1977), *Political Science*, Associate Professor—B.A., Southern Connecticut State College, 1970; M.A., University of Maryland, 1972; Ph.D., 1976.
- Al-Akkad, Riad S. (1986), *Civil and Environmental Engineering and Engineering Mechanics*, Lecturer—B.C.E., University of Dayton, 1980; M.S.C.E., 1981.
- Alexander, Roberta S. (1969), *History*, Professor—B.A., University of California, 1964; M.A., University of Chicago, 1966; Ph.D., 1974.
- Allik, Judith P. (1976), *Psychology*, Associate Professor—B.A., Wellesley College, 1958; M.S., University of Pittsburgh, 1974; Ph.D., 1978.
- Amin, Julius A. (1989), *History*, Associate Professor—B.A., University of Cameroon, 1979; M.A., West Texas State University, 1983; Ph.D., Texas Tech University, 1988.
- Amsden, Robert T. (1978), *Management Information Systems and Decision Sciences*, Associate Professor—B.A., University of New Hampshire, 1960; M.S., Rutgers University, 1964; Ph.D., 1969.
- Anderson, Darrell F. (1974), *Communication—Theatre*, Assistant Professor—B.A., University of Dayton, 1969; M.F.A., Ohio State University, 1991.
- Anderson, Gordon S. (1969), *Teacher Education*, Professor—B.A., Bethany College, 1953; M.S., State University of New York, 1959; Ed. D., Case Western Reserve University, 1969.
- Anderson, Rev. William P. (1968), *Religious Studies*, Professor—A.B., Bloomfield College, 1961; B.D., Princeton Theological Seminary, 1964; Th.D., 1968.
- Angel, Mary A. (1988), *Communication*, Lecturer — B.A., University of Cincinnati, 1977; M.A., 1979.
- Arons, Peter L. (1965), *English*, Associate Professor—A.B., New York University, 1957; M.A., Yale University, 1958; Ph.D., 1964.
- Artz, Theodora S. (1974), *Law Library*, Assistant Professor—B.Ed., University of Toledo, 1962; M.A.L.S., 1974.
- Ary, Frances Evans (1993), *Vice President for Advancement*, Assistant Professor (Administrative)—B.A., Emory University, 1976.
- August, Eugene R. (1966), *English*, Professor Alumni Chair in the Humanities—B.A., Rutgers University, 1958; M.A., University of Connecticut, 1960; Ph.D., University of Pittsburgh, 1965.
- Back, Stanley J. (1959), *Mathematics*, Associate Professor—B.S., University of Dayton, 1957; M.S., Purdue University, 1959.
- Bajpai, Praphulla K. (1964), *Biology*, Professor—B.V.Sc. and A.H., Agra University, 1958; M.V.Sc., 1960; M.Sc., Ohio State University, 1963; Ph.D., 1965.
- Ballal, Dilip R. (1990), *Mechanical and Aerospace Engineering*, Professor—B.Sc. (Eng.), Maulana Azad College of Technology, 1967; M.Sc., Cranfield Institute of Technology, 1968; Ph.D., 1972.
- Bannan, Alfred J. (1962), *History*, Assistant Professor—B.A., Manhattan College, 1958; M.A., University of Notre Dame, 1961.

- Barnes, Michael H. (1968), *Religious Studies*, Professor—A.B., St. Louis University, 1961; Ph.L., 1962; Ph.D., Marquette University, 1976.
- Bartilow, Horace A. (1993), *Political Science*, Assistant Professor—B.A., SUNY at Albany, 1984; M.A., 1986.
- Baxter, Carol J. (1970), *Music*, Assistant Professor—B.M. and B.M.E., Wichita State University, 1957; M.M., Miami University, 1970.
- Becker, Roger J. (1988), *Electro-Optics*, Associate Professor—B.A., Lake Forest College, 1967; M.S., Massachusetts Institute of Technology, 1972; Ph.D., Thomas Jefferson University, 1976.
- Bedard, Beatrice W. (1982), *Academic Services Coordinator for the Disabled*, Assistant Professor (Administrative)—B.A., University of Dayton, 1974; M.A., 1976.
- Bedard, Bernard J. (1962), *English*, Professor—A.B., University of Notre Dame, 1949; M.A., University of Michigan, 1950; Ph.D., 1959.
- Bednarek, Janet R. (1992), *History*, Assistant Professor — B.A., Creighton University, 1981; M.A., 1983; Ph.D., University of Pittsburgh, 1987.
- Beitel, Frank E. (1989), *Computer Science*, Adjunct Assistant Professor—B.S., University of Dayton, 1974; M.S., Wright State University, 1984.
- Beladi, Hamid (1988), *Economics and Finance*, Professor, William J. Hoben Scholar in International Business—B.A., Utah State University, 1976; M.S., 1979; Ph.D., 1983.
- Benedum, Richard P. (1973), *Music*, Professor—B.A., Concordia Teachers College, 1966; D.M.A., University of Oregon, 1972.
- Benson, Paul H. (1985), *Philosophy*, Associate Professor—B.A., St. Olaf College, 1979; Ph.D., Princeton University, 1984.
- Benz, Carolyn R. (1990), *Educational Administration*, Associate Professor—B.A., Indiana University, 1964; M.A.T., 1967; Ed.D., University of Akron, 1980.
- Berger, Robert N. (1964), *Management and Marketing*, Assistant Professor—B.S., University of Dayton, 1960; M.A., Ohio University, 1963; J.D., Chase School of Law, 1970.
- Berney, Rex L. (1978), *Physics*, Associate Professor—B.S., University of Missouri, 1971; M.S., 1973; Ph.D., 1978.
- Bickford, Deborah J. (1988), *Management and Marketing*, Assistant Professor—B.A., State University of New York, Cortland, 1974; M.S.B.A., University of Massachusetts, 1976; Ph.D., 1980.
- Biddle, James R. (1990), *Teacher Education*, Associate Professor — B.A., Bob Jones University, 1968; M.Ed., University of Cincinnati, 1970; Ph.D., Ohio State University, 1973.
- Biers, David W. (1976), *Psychology*, Associate Professor—B.A., Lafayette College, 1966; M.S., Northwestern University, 1968; Ph.D., 1970.
- Bilocerkowycz, Jaro M. (1985), *Political Science*, Associate Professor—B.A., Eastern Illinois University, 1973; M.A., University of Washington, 1975; Ph.D., 1983.
- Blakney, Vicki (1987), *Management and Marketing*, Assistant Professor—B.B.A., Mississippi State University, 1982; M.B.A., 1983; D.B.A., 1988.
- Blatt, Stephen J. (1971), *Communication*, Associate Professor—B.A., Morehead State University, 1964; M.A., Ohio University, 1967; Ph.D., 1969.

Faculty

- Bless, Stephen J. (1984), *Materials Engineering*, Adjunct Associate Professor—S.B., Massachusetts Institute of Technology, 1965; S.M., 1968; Sc.D., 1970.
- Boehman, Louis I. (1967), *Mechanical and Aerospace Engineering*, Professor—B.M.E., University of Dayton, 1960; M.S.M.E., Illinois Institute of Technology, 1963; Ph.D., 1967. Reg. Prof. Engr.
- Boehnlein, James M., S.M. (1992), *English*, Assistant Professor—B.A., University of Dayton, 1973; M.S.Ed., 1978; M.A., 1988; Ph.D., Miami University, 1992.
- Bogner, Fred K. (1969), *Civil and Environmental Engineering and Engineering Mechanics*, Professor—B.S.C.E., Case Institute of Technology, 1961; M.S.E.M., 1964; Ph.D., 1967.
- Bohlen, George A. (1980), *Management Information Systems and Decision Sciences*, Associate Professor—B.S.M.E., Clemson University, 1958; M.S.I.E., Purdue University, 1963; M.S.B.A., George Washington University, 1968; Ph.D., Purdue University, 1973.
- Bower, Samuel M. (1965), *Psychology*, Associate Professor—B.A., Mexico City College, 1957; Ph.D., Vanderbilt University, 1963.
- Brady, Thomas J. (1981), *Accounting*, Associate Professor—B.S., New York University, 1966; M.B.A., Adelphi University, 1968; Ph.D., St. Louis University, 1981.
- Branick, Vincent P. (1979), *Religious Studies*, Professor—B.A., Chaminade College of Honolulu, 1963; M.A., Catholic University of America, 1964; S.T.B., University of Fribourg, 1966; S.T.L., 1969; D.Phil., 1971; S.S.B., Pontifical Biblical Institute, 1972; S.S.L., 1973; S.S.D., 1975; M.B.A., University of Dayton, 1983.
- Brecha, Robert J. (1993), *Physics*, Assistant Professor—B.S., Wright State University, 1983; Ph.D., California Institute of Technology, 1990.
- Bredestege, Paul F., S.M. (1981), *Languages*, Lecturer—B.A., University of Dayton, 1960; M.A., Middlebury College, 1970; M.S., University of Dayton, 1985.
- Bregenzler, John M. (1968), *Sociology, Anthropology and Social Work*, Associate Professor—B.A., Carleton College, 1961; M.A., University of Minnesota, 1967; Ph.D., 1976.
- Breitwisch, Randall J. (1988), *Biology*, Associate Professor—B.S., University of Miami, 1973; M.S., 1977; M.S., University of Michigan, 1982; Ph.D., University of Miami, 1987.
- Brendel, Michael (1991), *Aerospace Engineering*, Assistant Professor—B.S., Clemson University, 1981; M.S., 1983; Ph.D., University of Notre Dame, 1986.
- Brenner, Susan W. (1988), *Law*, Associate Professor—B.A., Southwestern Oklahoma State University, 1968; M.A., Kent State University, 1971; J.D., Indiana University, 1981.
- Britt, John F. (1966), *Teacher Education*, Professor—B.A., St. Paul Seminary, 1950; M.A., St. Louis University, 1954; Ph.D., 1962; S.T.L., International Marian Research Institute, 1978; S.T.D., 1983.
- Britt, John F. R. (1993), *Visual Arts*, Lecturer—B.A., University of Dayton, 1982.
- Brockman, Robert A. (1984), *Mechanical and Aerospace Engineering*, Professor—B.S.M.E., Carnegie-Mellon University, 1973; M.M.E., University of Dayton, 1974; Ph.D., 1979.
- Buby, Bertrand A. (1967), *Religious Studies*, Assistant Professor—B.A., University of Dayton, 1955; S.T.L., Pontifical Biblicum Institute, 1964; S.S.L., University of Fribourg, 1966; S.T.D., Pontifical University of the Marianum, 1980.
- Buckley, David M. (1968), *Library*, Associate Professor—B.A., Miami University, 1966; M.A.L.S., Western Michigan University, 1968; M.A., University of Dayton, 1975.

- Bueche, Frederick J. (1961), *Physics*, Distinguished Professor at Large—B.S., University of Michigan, 1944; Ph.D., Cornell University, 1948.
- Burger, Christopher E., Major, U.S. Army (1990), *Military Science*, Assistant Professor—B.S., University of Dayton, 1973.
- Burkhardt, Thomas E. (1992), *Vice President for Financial Affairs and Treasurer*, Assistant Professor (Administrative)—B.S., University of Dayton, 1970.
- Burky, Albert J. (1973), *Biology*, Professor—B.A., Hartwick College, 1964; Ph.D., Syracuse University, 1969.
- Burns, Rev. Norbert C., S.M. (1959), *Religious Studies*, Professor—B.A., University of Dayton, 1945; S.T.L., University of Fribourg, 1954; S.T.D., The Angelicum, 1955.
- Burrows, Ron J. (1981), *Accounting*, Associate Professor—B.S., Northern Illinois University, 1965; M.S., 1968; Ph.D., Pennsylvania State University, 1980.
- Butter, Eliot J. (1971), *Psychology*, Professor—B.A., Brooklyn College, 1965; M.A., 1969; Ph.D., University of Massachusetts, 1971.
- Bylsma, Glenn W. (1975), *Medical Technology*, Clinical Professor—B.A., La Sierra College, 1950; M.D., Loma Linda University, 1954.
- Cadegan, Una M. (1987), *History*, Assistant Professor—B.A., University of Dayton, 1982; A.M., University of Pennsylvania, 1983; Ph.D., 1987.
- Cameron, Alex J. (1964), *English*, Associate Professor—A.B., University of Notre Dame, 1959; Ph.D., 1973.
- Carlsen, Roger N. (1981), *Teacher Education*, Assistant Professor—B.S. Ed., Northern Illinois University, 1967; M.S. Ed., Chicago State University, 1972; Ed.D., Western Michigan University, 1979.
- Carlson, Marybeth (1992), *History*, Assistant Professor—B.A., University of Maryland, 1979; M.A., University of Wisconsin, 1986; Ph.D., 1992.
- Casey, Anthony L. (1969), *Management Information Systems and Decision Sciences*, Assistant Professor—M.Ed., Wright State University, 1973; M.S., University of Dayton, 1972.
- Castello-Lamas, Marisus (1964), *Languages*, Assistant Professor—B.A., Hogar de Estudios Femenino, Spain, 1952; M.A., Domus, Spain, 1956; M.A., Tulane University, 1960.
- Champagne, Edwin B. (1987), *Electrical Engineering*, Adjunct Assistant Professor—B.S., Michigan State University, 1956; M.S.E.E., University of Southern California, 1958; Ph.D., Ohio State University, 1967.
- Chantell, Charles J. (1965), *Biology-Medical Technology*, Associate Professor—B.S., University of Illinois, 1961; M.S., University of Notre Dame, 1963; Ph.D., 1965.
- Chartoff, Richard P. (1984), *Chemical and Materials Engineering*, Professor—B.S., Case Institute of Technology, 1961; M.S., Princeton University, 1962; M.A., 1965; Ph.D., 1968.
- Chase, Donald V. (1993), *Civil and Environmental Engineering and Engineering Mechanics*, Assistant Professor — B.S.C.E., University of Kentucky, 1985; M.S.C.E., 1989; Ph.D., 1993.
- Chen, Rong-chin Carl (1977), *Economics and Finance*, Professor—B.A., National Taiwan University, 1969; M.S., Auburn University, 1973; Ph.D., University of Georgia, 1977.
- Chenoweth, Richard K. (1983), *Music*, Associate Professor—B.M., Manhattan School of Music, 1970; M.M., University of Cincinnati, 1984; D.M.A., 1988.

Faculty

- Chiodo, Andria J. (1968), *Languages*, Assistant Professor—B.A., University of Oregon, 1966; M.A., 1968.
- Chu, Linda W. (1991), *Medical Technology*, Clinical Assistant Professor—B.S., Loma Linda University, 1974; M.D., Loma Linda University, 1976.
- Chuang, Henry N. (1965), *Mechanical and Aerospace Engineering*, Professor—B.S., National Taiwan University, 1958; M.S., University of Maryland, 1962; Ph.D., Carnegie Institute of Technology, 1966. Reg. Prof. Engr.
- Church, Kevin M. (1990), *Chemistry*, Assistant Professor—B.S., University of Nebraska, 1982; M.S., University of Nebraska Medical Center, 1985; Ph.D., 1988.
- Clark, Willard C., Jr. (1963), *Accounting*, Associate Professor—B.S., University of Dayton, 1959; M.B.A., Miami University, 1960; C.P.A., Ohio, 1962.
- Cochran, Rebecca A. (1991), *Law*, Instructor—B.A., Colorado College, 1974; M.A., Northwestern University, 1975; J.D., John Marshall Law School, 1984.
- Columbus, Suzanne L. (1989), *Medical Technology*, Assistant Professor—B.S., University of Dayton, 1968; B.S., 1978; M.T. (ASCP), 1978; M.S., 1985.
- Columbus, Thomas M. (1967), *Public Relations*, Assistant Professor (Administrative)—A.B., College of the Holy Cross, 1966; M.A., University of Virginia, 1967.
- Conard, Robert C. (1967), *Languages*, Professor—B.B.A., University of Cincinnati, 1956; M.A., 1962; Ph.D., 1969.
- Conley, Cheryl L. (1990), *Medical Technology*, Assistant Professor—B.S., Wright State University, 1974; M.C.L.T., University of Dayton, 1980; Ph.D., Wright State University, 1984.
- Conlon, Rev. Christopher W., S.M. (1988), *Campus Ministry*, Associate Professor (Administrative)—B.A., University of Dayton, 1957; S.T.L., University of Fribourg, 1966; M.S.Rel.Ed., Loyola University of Chicago, 1972.
- Conniff, Brian P. (1990), *English*, Assistant Professor—B.A., Rutgers University, 1978; M.A., University of Scranton, 1980; Ph.D., University of Notre Dame, 1984.
- Conte, Francis J. (1987), *Law*, Professor—B.A., Pennsylvania State University, 1964; J.D., University of Texas, 1969.
- Cookson, John E. (1977), *Management and Marketing*, Adjunct Professor—B.S., Workshop College, 1944; A.M.I.E.E., Rutherford College, 1949; J.D.S., University of Lund, 1966.
- Cooley, Steven (1991), *History*, Assistant Professor — B.A., Wright State University, 1977; M.A., 1979; M.A., University of Chicago, 1986; Ph.D., 1991.
- Coures, George (1987), *Electronic Engineering Technology*, Associate Professor— B.S.E.E., Illinois Institute of Engineering and Technology, 1951; M.S.Ed., Miami University, 1985.
- Courtney, Nancy D. (1986), *Library*, Assistant Professor—B.A., Northwestern University, 1983; M.S., University of Illinois, 1984.
- Courtright, James F. (1984), *Industrial Engineering Technology*, Professor—B.T., University of Dayton, 1975; M.B.A., 1982; Ed.S., 1988.
- Cox, Donna M. (1990), *Music*, Assistant Professor—B.A., Virginia Union University, 1979; M.M., Washington University, 1982; Ph.D., 1986.
- Craver, Bruce A. (1978), *Physics*, Associate Professor—B.S., Purdue University, 1969; M.S., 1971; Ph.D., 1976.

- Crist, Maria Perez (1989), *Law*, Instructor—B.A., Northwestern University, 1978; J.D., University of Michigan, 1981.
- Crum, Roger J. (1991), *Visual Arts*, Assistant Professor—B.A., University of Michigan, 1985; M.A., 1986; Ph.D., University of Pittsburgh, 1992.
- Cummins-Collier, Carol D. (1984), *Associate Dean of Students: Residential Programs*, Assistant Professor (Administrative)—B.A., Indiana University, 1976; M.S., 1978.
- Cusella, Louis P. (1985), *Communication*, Professor—B.A., Kent State University, 1971; M.A., Ohio State University, 1974; Ph.D., Purdue University, 1978.
- Dandaneau, Steven P. (1992), *Sociology, Anthropology, and Social Work*, Assistant Professor—B.A., Michigan State University, 1986; M.A., Brandeis University, 1990; Ph.D., 1992.
- Daniels, Malcolm W. (1989), *Electrical Engineering*, Assistant Professor—B.Sc., University of Strathclyde, 1979; Ph.D., 1982.
- DaPolito, Frank J. (1970), *Psychology*, Professor—B.A., Bowling Green State University, 1959; Ph.D., Indiana University, 1966.
- Davis, Richard A. (1993), *Geology*, Adjunct Professor — B.A., Cornell College, 1963; M.S., University of Iowa, 1965; Ph.D., 1968.
- Davis, Thomas I. (1990), *Management Information Systems and Decision Sciences*, Lecturer—B.S., University of Wyoming, 1964; M.S., Air Force Institute of Technology, 1970.
- Davis-Berman, Jennifer L. (1986), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., Denison University, 1979; M.S.W., Ohio State University, 1982; Ph.D., 1985.
- De, Prabuddha (1987), *Management Information Systems and Decision Sciences*, Professor, Standard Register-Sherman Distinguished Professor—B.Sc., University of Calcutta, 1968; M.Tech., 1971; M.S., Pennsylvania State University, 1975; Ph.D., Carnegie-Mellon University, 1979.
- DeConinck, James B. (1992), *Management and Marketing*, Assistant Professor — B.S.B.A., University of Missouri, 1981; M.B.A., Central Missouri State University, 1984; Ph.D., University of Arkansas, 1988.
- Deep, Ronald (1989), *Engineering Management and Systems*, Associate Professor—B.S., U.S. Air Force Academy, 1960; M.S.E., Purdue University, 1970; Ph.D., Florida State University, 1976.
- Dehler, Gordon E. (1988), *Management and Marketing*, Assistant Professor—B.A., University of Northern Colorado, 1974; M.A., Ohio State University, 1977; M.A.I.R., University of Cincinnati, 1986; Ph.D., 1990.
- Deinlein, George A., S.M. (1988), *Center for Christian Renewal*, Associate Professor (Administrative)—B.S.Ed., University of Dayton, 1948; M.A., Ohio State University, 1957.
- Dellwo, Madeline (1990), *Human Ecology*, Assistant Professor—B.S., University of Washington, 1977; M.S., University of Tennessee, 1986; Ph.D., 1989.
- De Luca, Barbara M. (1975), *Human Ecology*, Assistant Professor—B.S., University of Dayton, 1971; M.S., Miami University, 1975; Ph.D., Ohio State University, 1984.
- Detrio, John A. (1988), *Electro-Optics*, Adjunct Associate Professor—B.S., Spring Hill College, 1959; M.S., University of Alabama, 1961.

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- Dickinson, Kelvin H. (1979), *Law*, Professor—B.A., Western Michigan University, 1965; LL.B., Harvard University, 1968.
- Dickman, Keith (1990), *Medical Technology*, Clinical Assistant Professor—B.S., Ohio State University, 1975; M.T. (ASCP), 1979.
- Diethorn, Bernard C., S.M. (1966), *Counselor Education and Human Services*, Professor—B.A., University of Dayton, 1942; M.A., Western Reserve University, 1952; D.Ed., 1966.
- Doepker, Philip E. (1984), *Mechanical Engineering Technology*, Professor—B.M.E., University of Dayton, 1967; M.S.M.E., Ohio State University, 1968. Reg. Prof. Engr.
- Dominic, Vincent G. (1993), *Electro-Optics*, Assistant Professor — B.S.E.E., University of Dayton, 1986; M.S.E.E., University of Southern California, 1987, Ph.D., 1993.
- Donnelly, Patrick G. (1979), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., St. Joseph's College, 1974; M.A., University of Delaware, 1977; Ph.D., 1981.
- Dorsey, Donald L. (1993), *Chemical and Materials Engineering*, Adjunct Professor — B.S., The Johns Hopkins University, 1983; M.S., Washington University, 1987; D.Sc., 1988.
- Douvre, Sherrie Shugarman L. (1983), *Teacher Education*, Associate Professor — B.Ed., University of Toledo, 1975; M.Ed., 1977; Ph.D., Claremont Graduate School, 1983.
- Doyle, Dennis M. (1984), *Religious Studies*, Associate Professor—B.A., LaSalle College, 1974; M.A., Ohio University, 1978; M.A., Catholic University of America, 1980; Ph.D., 1984.
- Doyle, George R., Jr. (1982), *Mechanical and Aerospace Engineering*, Professor—B.S.A.E., Purdue University, 1965; M.S.A.E., 1967; Ph.D., University of Akron, 1973. Reg. Prof. Engr.
- Drees, Doris A. (1956), *Health, Physical Education, and Sport Science*, Professor—B.S., University of Dayton, 1954; M.A., Ohio State University, 1959; Ph.D., University of Iowa, 1968.
- Dreidame, R. Elaine (1970), *Athletics*, Assistant Professor (Administrative)—B.S. in Ed., University of Cincinnati, 1964; M.Ed., 1966; Ph.D., Ohio State University, 1974.
- Drury, William R. (1984), *Educational Administration*, Associate Professor—B.S., University of Dayton, 1958; M.S., 1962; Ed.D., Wayne State University, 1971.
- Duncan, Bradley D. (1991), *Electrical Engineering and Electro-Optics*, Assistant Professor—B.S.E.E., Virginia Polytechnic Institute and State University, 1986; M.S., 1988; Ph.D., 1991.
- Dunne, E. James (1982), *Management Information Systems and Decision Sciences*, Professor—B.S., St. Louis University, 1962; M.S., Air Force Institute of Technology, 1964; Ph.D., University of Illinois, 1971.
- Durham, James Geoffrey (1980), *Law*, Professor—A.B., University of California at Berkeley, 1973; J.D., University of California at Davis, 1976.
- Durham, Joyce R. (1980), *English*, Assistant Professor—B.S.Ed., Ohio University, 1962; M.A., Ohio State University, 1966; Ph.D., University of Maryland, 1974.
- Eastep, Franklin E. (1980), *Aerospace Engineering*, Professor—B.S., Ohio State University, 1958; M.S., Air Force Institute of Technology, 1963; Ph.D., Stanford University, 1968.
- Ebeling, Charles E. (1988), *Engineering Management and Systems*, Associate Professor — B.S., University of Pittsburgh, 1965; M.S., Air Force Institute of Technology, 1969; Ph.D., Ohio State University, 1973.

- Edgren, Mark G. Captain, U.S. Army (1991), *Military Science*, Assistant Professor — B.A., William and Mary College, 1984.
- Edmonson, Charlie P. (1993), *Industrial Engineering Technology*, Associate Professor—B.S., Tennessee State University, 1964; M.S., University of Pittsburgh, 1968.
- Edwards, Elizabeth I. (1987), *Visual Arts*, Associate Professor—B.F.A., Temple University, 1982; M.F.A., Indiana University, 1987.
- Eggemeier, F. Thomas (1986), *Psychology*, Professor—B.A., University of Dayton, 1967; M.A., Ohio State University, 1969; Ph.D., 1971.
- Egnor-Brown, Rose M. (1983), *Teacher Education*, Assistant Professor—B.S.Ed., University of Dayton, 1975; M.S.Ed., 1977.
- Eid, Leroy V. (1961), *History*, Professor—B.S. in Ed., University of Dayton, 1953; M.A., St. John's University, 1958; Ph.D., 1961; M.A., University of Toronto, 1968.
- Eimermacher, John P. (1986), *Mechanical and Aerospace Engineering*, Professor—B.M.E., University of Cincinnati, 1963; M.S.M.E., 1967; Ph.D., 1973. Reg. Prof. Engr.
- Eley, Marion J. (1961), *Accounting*, Associate Professor—B.S., University of Dayton, 1959; M.B.A., Xavier University, 1964; C.P.A., Ohio, 1966.
- Eloe, Paul W. (1980), *Mathematics*, Professor—B.A., Vanderbilt University, 1975; M.S., University of Missouri, 1977; Ph.D., 1980.
- Elvers, Greg C. (1990), *Psychology*, Assistant Professor—B.S., Purdue University, 1984; B.A., 1985; M.S., 1987; Ph.D., 1989.
- Emmelhainz, Margaret A. (1986), *Management and Marketing*, Associate Professor—B.A., Trinity University, 1973; M.S., Air Force Institute of Technology, 1979; Ph.D., Ohio State University, 1986.
- Endres, Thomas E. (1987), *Mechanical and Aerospace Engineering*, Associate Professor—B.M.E., University of Dayton, 1966; M.S.M.E., 1969. Reg. Prof. Engr.
- Ensalaco, Mark (1989), *Political Science*, Assistant Professor—B.A., State University of New York at Buffalo, 1981; M.T., Harvard University, 1984; Ph.D., State University of New York at Buffalo, 1991.
- Erdei, John E. (1983), *Physics*, Associate Professor—B.S., Cleveland State University, 1973; M.S., 1976; Ph.D., University of Cincinnati, 1983.
- Ervin, Jamie S. (1992), *Mechanical and Aerospace Engineering*, Assistant Professor — B.S.M.E., Michigan Technological University, 1984; M.S.M.E., 1986; Ph.D., University of Michigan, 1991.
- Evans, James H. (1981), *Counselor Education and Human Services*, Associate Professor—B.A., Ohio Wesleyan University, 1961; M.A., Kent State University, 1964; Ed.D., Indiana University, 1971.
- Evers, Anthony J. (1966), *Electrical Engineering*, Associate Professor—B.E.E., University of Dayton, 1953; M.S.E.E., University of Notre Dame, 1955. Reg. Prof. Engr.
- Eylon, Daniel (1986), *Chemical and Materials Engineering*, Professor—B.Sc., Technion, Israel Institute of Technology, 1966; M.Sc., 1968; D.Sc., 1972.
- Fackovec, William M., S.M. (1960), *Library*, Associate Professor—B.S. in Ed., University of Dayton, 1949; M.S.L.S., Western Reserve University, 1959.

Faculty

- Farrelly, Barbara A. (1985), *Academic Coordinator for Athletics*, Assistant Professor (Administrative)—B.A., Good Counsel College, 1965; M.A., University of Dayton, 1969.
- Farrelly, James P. (1967), *English*, Professor—B.A., Providence College, 1964; M.A., University of Dayton, 1966; Ph.D., Boston University, 1974.
- Farren, Joseph M. (1966), *Electronic Engineering Technology*, Professor—B.S., Bluffton College, 1959; B.E.E., University of Dayton, 1961; M.S., 1966; M.B.A., 1977. Reg. Prof. Engr.
- Fasano, Julian B. (1985), *Chemical and Materials Engineering*, Adjunct Assistant Professor—B.S.C.E., University of Dayton, 1965; M.B.A., 1974; M.S.C.E., Lehigh University, 1970.
- Ferguson, Richard T. (1973), *Assistant to the President for Regional and Government Relations*, Assistant Professor (Administrative)—B.A., University of Dayton, 1973.
- Ferratt, Thomas W. (1986), *Management Information Systems and Decision Sciences*, Professor—B.B.A., University of Notre Dame, 1968; M.B.A., Ohio State University, 1973; Ph.D., 1974.
- Fine, Mark A. (1984), *Psychology*, Professor—B.A., Cornell University, 1979; M.A., Ohio State University, 1981; Ph.D., 1983.
- Fioriti, Andrew A. (1965), *Accounting*, Associate Professor—B.S., University of Scranton, 1956; M.B.A., University of Detroit, 1958; C.P.A., New Jersey, 1964.
- Fischer, Marilyn M. (1992), *Philosophy*, Assistant Professor—B.A., Wheaton College, 1971; M.A., Boston University, 1975; Ph.D., 1978.
- Fitz, Raymond L., S.M. (1969), *Engineering Management and Systems*, Professor—B.E.E., University of Dayton, 1964; M.S., Polytechnic Institute of Brooklyn, 1967; Ph.D., 1970.
- Flach, Lawrance (1989), *Chemical and Materials Engineering*, Associate Professor—B.Sc., University of Cape Town, 1980; M.Sc., 1982; Ph.D., University of Colorado, 1989.
- Flannery, David L. (1988), *Electro-Optics*, Associate Professor—B.E.E., General Motors Institute, 1964; M.S., Massachusetts Institute of Technology, 1964; Ph.D., 1968.
- Flockerzie, Lawrence J. (1987), *History*, Associate Professor—B.A., University of Massachusetts, 1976; M.A., Indiana University, 1982; Ph.D., 1987.
- Fogel, Lucetta J. (1989), *Languages-Teacher Education*, Lecturer—B.S., Indiana University of Pennsylvania, 1967; M.A., Ohio State University, 1969; M.S., University of Dayton, 1984.
- Fogel, Norman J. (1971), *Political Science*, Associate Professor—B.S., Millersville State College, 1960; M.A., University of Delaware, 1968; Ph.D., Ohio State University, 1975.
- Fouke, Daniel C. (1988), *Philosophy*, Assistant Professor—B.A., University of Iowa, 1975; M.A., University of Chicago, 1983; Ph.D., 1986.
- Fox, B. Lawrence (1966), *Chemistry*, Professor—B.S., John Carroll University, 1962; Ph.D., Ohio State University, 1966.
- Fraker, John R. (1975), *Engineering Management and Systems*, Professor—B.S., University of Tennessee, 1956; M.S., 1965; Ph.D., Clemson University, 1971. Reg. Prof. Engr.
- Frasca, Ralph R. (1972), *Economics and Finance*, Associate Professor—B.A., C.W. Post College, 1967; M.A., Indiana University, 1971; Ph.D., 1975.
- Fratini, Albert V. (1967), *Chemistry*, Professor—B.S., University of Rhode Island, 1960; Ph.D., Yale University, 1966.

- Frericks, Donald J. (1978), *Educational Administration*, Associate Professor—B.S., University of Dayton, 1956; M.A., Miami University, 1958; Ph.D., Ohio State University, 1970.
- Frick, Roy K. (1987), *Engineering Management and Systems*, Associate Professor—B.S., Clemson University, 1950; M.S., Ohio State University, 1966; Ph.D., 1970.
- Friedland, Eric L. (1968), *Religious Studies*, Professor, Harriet Sanders Professor of Judaic Studies—B.A., Boston University, 1960; M.A., Brandeis University, 1962; Ph.D., 1967.
- Friel, J. William (1963), *Mathematics*, Associate Professor—B.S., Loras College, 1959; M.A., Duquesne University, 1962.
- Friese, Carl F. (1992), *Biology*, Assistant Professor — B.S., University of Connecticut, 1982; M.S., University of Rhode Island, 1984; Ph.D., Utah State University, 1991.
- Frost, Rev. William P. (1967), *Religious Studies*, Professor—Drs. Th., Carolus Magnus University, Netherlands, 1961; M.A., Loyola University, 1966.
- Fuchs, Gordon E. (1967), *Teacher Education*, Professor—B.S., University of Wisconsin, 1958; M.S., 1961; Ph.D., Ohio State University, 1974.
- Gaidis, William C. (1991), *Management and Marketing*, Associate Professor—B.S., California State University, Long Beach, 1976; M.B.A., 1977; Ph.D., University of Wisconsin-Madison, 1983.
- Gallagher, Joseph P. (1984), *Materials Engineering*, Professor—B.S.C.E., Drexel University, 1964; M.S., University of Illinois, 1965; Ph.D., 1968.
- Gannon, Loren S., Jr. (1975), *History*, Adjunct Assistant Professor—B.S., University of Omaha, 1963; M.A., University of Dayton, 1970.
- Gantner, Thomas E. (1966), *Mathematics*, Professor—B.S., University of Dayton, 1962; M.S., Purdue University, 1964; Ph.D., 1966.
- Garcia, Albert B. (1987), *Electrical Engineering*, Adjunct Assistant Professor—B.S.E.E., West Virginia University, 1968; M.S.E.E., 1970; M.B.A., Fairleigh Dickinson University, 1980; Ph.D., University of Dayton, 1985.
- Garten, Rev. Edward D. (1985), *Library*, Professor—B.S., Concord College, 1968; M.A., M.Div., in consortium, Pontifical College Josephinum, Ohio State University, and Methodist Theological School in Ohio, 1972; M.L.S., Kent State University, 1974; Ph.D., University of Toledo, 1977.
- Gauder, Charles C. (1985), *Electrical Engineering*, Assistant Professor—B.S.E.E., University of Cincinnati, 1955; M.S., University of Dayton, 1969. Reg. Prof. Engr.
- Gay, James E. (1968), *Teacher Education*, Professor—B.A., Ohio University, 1951; M.A., University of Wisconsin, 1956; D.Ed., University of Maryland, 1972.
- Geary, K. Michael (1976), *Accounting*, Associate Professor—B.S., Indiana University, 1969; M.B.A., Miami University, 1974; Ph.D., University of Cincinnati, 1982; C.P.A., Illinois, 1975; Ohio, 1976.
- Geiger, Donald R., S.M. (1964), *Biology*, Professor—B.S., University of Dayton, 1955; M.S., Ohio State University, 1960; Ph.D., 1963.
- Geiger, John O. (1970), *Teacher Education*, Professor—B.A., Marquette University, 1966; Ph.D., 1972.
- Gerla, Harry S. (1979), *Law*, Professor—B.A., Queens College, 1970; M.A., University of Florida, 1972; J.D., Ohio State University, 1975.

Faculty

- Ghere, Richard K. (1984), *Political Science*, Assistant Professor—B.A., Concordia College, 1968; M.A., University of Toledo, 1970; Ph.D., Wayne State University, 1975.
- Ghosh, Jayabrata (1983), *Management Information Systems and Decision Sciences*, Associate Professor—B.T., Indian Institute of Technology, 1977; M.S., University of Arkansas, 1981; Ph.D., 1983.
- Gilleland, Irene (1980), *Medical Technology*, Clinical Assistant Professor—B.S., University of Dayton, 1953; M.T. (ASCP), 1952.
- Gilvary, Patrick S. (1955), *Communication—Theatre*, Professor—B.S., University of Dayton, 1950; M.A., Xavier University, 1963; Ph.D., Ohio State University, 1975.
- Glass, Amy S. (1993), *Chemistry*, Assistant Professor—B.A., State University of New York, 1982; M.S., New York University, 1984; Ph.D., 1988.
- Goldfine, Bernard D. (1990), *Health, Physical Education, and Sport Science*, Assistant Professor—B.A., University of California, Santa Barbara, 1975; M.A., University of Southern California, 1985; Ph.D., 1988.
- Gomolka, Eugene G. (1986), *Management and Marketing*, Professor—B.S., Carnegie-Mellon University, 1967; M.B.A., University of Pittsburgh, 1968; Ph.D., State University of New York at Buffalo, 1974.
- Gooch, Peter G. (1986), *Visual Arts*, Associate Professor—B.S., B.F.A., Eastern Michigan University, 1978; M.F.A., Western Michigan University, 1984.
- Gorton, Robert B. (1969), *Mathematics*, Associate Professor—B.S., Illinois Institute of Technology, 1964; M.S., 1966; Ph.D., 1970.
- Gould, Sam (1985), *Management and Marketing*, Professor—B.S., Ohio University, 1965; M.B.A., University of Colorado, 1970; Ph.D., Michigan State University, 1975.
- Gowda, Raghava G. (1983), *Computer Science*, Assistant Professor—B.S.E.E., Banaras Hindu University, 1971; M.B.M., 1973; M.B.I.S., Georgia State University, 1981; Ph.D., 1988.
- Graetz, Kenneth A. (1992), *Psychology*, Assistant Professor—B.S., University of Wisconsin-Madison, 1986; M.A., University of North Carolina at Chapel Hill, 1989; Ph.D., 1992.
- Graham, Thomas P. (1964), *Physics*, Professor—B.S., Providence College, 1956; Ph.D., Iowa State University, 1967.
- Griffin, James F. (1985), *Chemical and Materials Engineering*, Adjunct Assistant Professor—B.A., Oberlin College, 1961; M.S.Ch.E., Ohio University, 1967.
- Griffin, Jeffrey L. (1990), *Communication*, Assistant Professor—A.B., University of North Carolina, 1979; M.A., University of Texas, 1983; Ph.D., University of North Carolina, 1990.
- Gross, David I. (1981), *Chemical Technology*, Associate Professor—B. Ch. E., Georgia Institute of Technology, 1959; M.S., Air Force Institute of Technology, 1965. Reg. Prof. Engr.
- Gustafson, Elizabeth F. (1983), *Economics and Finance*, Associate Professor—B.A., Duke University, 1970; Ph.D., University of North Carolina, 1974.
- Gustafson, Steven C. (1988), *Electro-Optics*, Associate Professor—B.S., University of Minnesota, 1967; M.S., Duke University, 1969; Ph.D., 1974.
- Hadley, Lawrence H. (1977), *Economics and Finance*, Associate Professor—B.A., Rutgers University, 1967; M.A., University of Connecticut, 1969; Ph.D., 1975.

- Hadley, Linda B. (1990), *Accounting*, Lecturer—B.S., State University of New York at Albany, 1968; M.B.A., University of Connecticut, 1969; C.P.A., Ohio, 1985.
- Hagel, Thomas L. (1982), *Law*, Associate Professor—B.S., University of Nebraska, 1972; J.D., 1976; LL.M., Temple University, 1982.
- Hallinan, Charles G. (1983), *Law*, Associate Professor—B.A., University of Dayton, 1969; J.D., University of Toledo, 1977; LL.M., Yale University, 1983.
- Hallinan, Kevin P. (1988), *Mechanical and Aerospace Engineering*, Associate Professor — B.S., University of Akron, 1982; M.S., Purdue University, 1984; Ph.D., Johns Hopkins University, 1988.
- Hanley, Thomas L. (1982), *Law Library*, Assistant Professor—A.B., Earlham College, 1970; J.D., Indiana University, 1973; M.S.L.S., Western Michigan University, 1975.
- Hanneman, Douglas A. (1956), *Electronic Engineering Technology*, Professor—B.E.E., University of Dayton, 1956. Reg. Prof. Engr.
- Harawa, Bernard A. (1977), *Educational Administration*, Associate Professor—Dip. Ed., Stranmillis College, Belfast, 1961; B.S.Ed., University of Dayton, 1965; M.S.Ed., 1967; Ed.D., Columbia University, 1974.
- Hardie, Russell C. (1993), *Electrical Engineering*, Assistant Professor—B.E.S., Loyola College, 1988; M.E.E., University of Delaware, 1990; Ph.D., 1992.
- Harmer, Richard S. (1971), *Mechanical and Aerospace Engineering*, Associate Professor—B.S., University of Illinois, 1963; M.S., 1967; Ph.D., 1971.
- Hart, Patricia M. (1988), *Teacher Education*, Assistant Professor — B.S., University of Dayton, 1973; M.S., 1983, Ph.D., Ohio State University, 1989.
- Hartley, Linda A. (1991), *Music*, Assistant Professor—B.M., Bowling Green State University, 1979; M.M., Kent State University, 1987; Ph.D., 1991.
- Hartwell, Carolyn L. (1993), *Accounting*, Assistant Professor — B.A., College of Mt. St. Joseph, 1978; M.B.A., University of Cincinnati, 1984.
- Harwood, Philip J. (1966), *Communication*, Associate Professor—B.S., Butler University, 1960; M.S., 1961; Ph.D., Ohio University, 1972.
- Hary, Nicoletta C. (1964), *Library*, Professor—Litt.D., Istituto Universitario Orientale, Naples, 1951; Diploma in Library Science, Vatican Library School, Rome, 1952; Ph.D., Indiana University, 1991.
- Hatch, Edward L. (1972), *Languages*, Lecturer—B.A., Haverford College, 1961; M.A., English, University of Michigan, 1964; M.A., German, 1968.
- Hatch, Elke (1985), *Languages*, Lecturer—B.A., University of Michigan, 1969; M.A., 1970; Ph.D., 1975.
- Hater, Robert J. (1981), *Religious Studies*, Professor—B.A., Athenaeum of Ohio, 1957; M.A., 1959; Ph.D., St. John's University, 1967.
- Hayes, Gregory D. (1992), Director, *Career Placement Center*, Assistant Professor (Administrative) — B.S., Morgan State College, 1971; M.S., University of Dayton, 1972.
- Hecht, Norman L. (1974), *Materials Engineering*, Professor—B.S., Alfred University, 1960; M.S., 1968; Ph.D., 1972.
- Heffernan, Alfred J. (1988), *Criminal Justice*, Lecturer—B.A., Hobart College, 1954; M.A., Central Michigan University, 1974.

Faculty

- Heft, Rev. James L., S.M. (1978), *Religious Studies*, Professor—B.A., B.S.Ed., University of Dayton, 1966; M.A., University of Toronto, 1971; Ph.D., 1977.
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- Henninger, Francis J. (1965), *English*, Professor—B.A., St. John's University, 1956; A.M., University of Notre Dame, 1958; M.A., University of Pennsylvania, 1962; Ph.D., 1965.
- Herbenick, Raymond M. (1968), *Philosophy*, Professor—B.A., Duquesne University, 1964; M.A., DePaul University, 1965; M.B.A., University of Pittsburgh, 1968; Ph.D., Georgetown University, 1968.
- Higgins, Aparna W. (1984), *Mathematics*, Associate Professor—B.Sc., University of Bombay, 1978; M.S., University of Notre Dame, 1980; Ph.D., 1983.
- Hirshfield, Deborah A. (1991), *History*, Assistant Professor—B.A., Rutgers University, 1978; M.A., University of California, 1981; Ph.D., 1987.
- Hitchner, R. Bruce (1988), *History*, Associate Professor—B.A., Pennsylvania State University, 1973; A.M., University of Chicago, 1976; Ph.D., University of Michigan, 1982.
- Hitt, Terry K. (1975), *Visual Arts*, Associate Professor—B.A., Otterbein College, 1959; M. Div., United Theological Seminary, 1963; M.F.A., University of Cincinnati, 1981.
- Hoeffel, James L. (1987), *Electrical Engineering*, Adjunct Assistant Professor—B.E.E., University of Dayton, 1959; M.S.E.E., Ohio State University, 1965.
- Hoffman, David K. (1987), *Music*, Assistant Professor—B.S., University of Illinois, 1981; M.M., Northwestern University, 1986.
- Hopfengardner, Jerrold D. (1978), *Educational Administration*, Professor—B.S., University of Dayton, 1959; M.Ed., Miami University, 1961; Ph.D., Ohio State University, 1970.
- Hovey, William J. (1953), *Electronic Engineering Technology*, Associate Professor—B.E.E., University of Dayton, 1952; M.S., Ohio State University, 1967.
- Howarth, Cooley R. (1976), *Law*, Associate Professor—B.A., Michigan State University, 1971; J.D., University of Denver, 1976.
- Hueth, Alan C. (1991), *Communication*, Lecturer—B.A., California State University, 1979; M.A., San Diego State University, 1984.
- Huff, Rae E. (1991), *Assistant Dean, Arts and Sciences*, Assistant Professor (Administrative)—B.A., Wright State University, 1976; M.A., 1983.
- Hufnagle, Mary Sue T. (1969), *Assistant Dean of Students*, Assistant Professor (Administrative)—B.A., Nazareth College, 1960; M.A., Michigan State University, 1964.
- Hunn, Diana M. (1992), *Teacher Education*, Assistant Professor—B.S., Miami University, 1972; M.Ed., 1973; Ph.D., Indiana University, 1986.
- Hunnicut, Sarah S. (1990), *Chemistry*, Assistant Professor—B.A., Duke University, 1983; M.S., University of Utah, 1986; Ph.D., University of Cincinnati, 1990.
- Hunt, Laura N. (1989), *History*, Assistant Professor—B.A., Western Carolina University, 1983; M.A., University of Cincinnati, 1985; Ph.D., 1993.
- Huth, Mary Jo (1962), *Sociology, Anthropology, and Social Work*, Professor—B.S., University of Dayton, 1950; M.A., Indiana University, 1951; Ph.D., St. Louis University, 1955.

- Inglis, John A. (1993), *Philosophy*, Assistant Professor—B.A., University of St. Thomas, 1977; M. Div., University of Toronto, 1982; M.A., University of Houston, 1989; Ph.D., University of Kentucky, 1993.
- Ingram, Jefferson L. (1978), *Criminal Justice*, Associate Professor—B.S.Ed., University of Dayton, 1972; M.A., 1977; J.D., 1978.
- Inscho, Frederick R. (1976), *Political Science*, Assistant Professor—A.B., University of Detroit, 1968; M.A., State University of New York at Buffalo, 1972; Ph.D., 1976.
- Islam, Muhammad (1985), *Mathematics*, Associate Professor—B.S., University of Dhaka, Bangladesh, 1972; M.S., Carleton University, Ottawa, 1980; Ph.D., Southern Illinois University, 1985.
- Ismail, Amin R. (1981), *Electronic Engineering Technology*, Associate Professor—B.T., University of Dayton, 1978; M.C.S., 1981.
- Jain, Vinod K. (1979), *Mechanical and Aerospace Engineering*, Professor—B.S.M.E., University of Roorkee, India, 1964; M.S.M.E., 1970; Ph.D., Iowa State University of Science and Technology, 1980.
- Jenkins, Fred W. (1987), *Library*, Assistant Professor—B.A., University of Cincinnati, 1979; A.M., University of Illinois, 1981; Ph.D., 1985; M.S., 1986.
- John, Reji (1993), *Materials Engineering*, Adjunct Assistant Professor—B.T., Indian Institute of Technology, 1982; Ph.D., Northwestern University, 1987.
- Johnson, Anita K. (1990), *Library*, Assistant Professor—B.A., Wittenberg University, 1969; M.L.S., Case Western Reserve University, 1975; M.A., University of Dayton, 1989.
- Johnson, David W. (1984), *Chemistry*, Associate Professor—B.S., Illinois Institute of Technology, 1979; Ph.D., 1983.
- Johnson, Patricia A. (1979), *Philosophy*, Professor—B.A., Eckerd College, 1967; M.A., Columbia University, 1969; M.A., University of Toronto, 1974; Ph.D., 1979.
- Johnson, Sam (1985), *Assistant Dean, Arts and Sciences*, Assistant Professor (Administrative)—B.A., Millikin University, 1966; M. Div., Union Theological Seminary, 1969.
- Jones, Robert B. (1992), *Music*, Assistant Professor—B.M.E., Appalachian State University, 1972; M.M., University of North Carolina, 1975; D.M.A., University of Miami, 1991.
- Joseph, Ellis A. (1961), *Education*, Professor—A.B., University of Notre Dame, 1955; M.A., 1956; Ph.D., 1962; L.H.D. (Honorary), College of Mt. St. Joseph, 1989.
- Karim, Mohammad A. (1986), *Electrical Engineering and Electro-Optics*, Professor—B.S., University of Dacca, Bangladesh, 1976; M.S., University of Alabama, 1978; M.S.E.E., 1979; Ph.D., 1982.
- Karns, Margaret P. (1976), *Political Science*, Professor—B.A., Denison University, 1965; M.A., University of Michigan, 1966; Ph.D., 1975.
- Katsuyama, Ronald M. (1973), *Psychology*, Associate Professor—B.S., University of California, 1966; Ph.D., Vanderbilt University, 1977.
- Kauflin, John E. (1966), *Mathematics*, Assistant Professor—B.S., University of Dayton, 1962; M.S., Michigan State University, 1964; Ph.D., Georgetown University, 1970.
- Kearns, Robert J. (1984), *Biology*, Associate Professor—B.S., Washington State University, 1968; M.S., 1975; Ph.D., 1978; M.T. (ASCP), 1971.

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- Kee, Richard J. (1985), *Electrical Engineering*, Assistant Professor—B.S., University of Tampa, 1971; M.S.E.E., Air Force Institute of Technology, 1976; D.E., University of Dayton, 1989. Reg. Prof. Engr.
- Keil, R. Gerald, (1969), *Chemistry*, Professor—B.S., Villanova University, 1963; Ph.D., Temple University, 1967.
- Keim, Joseph W. (1982), *Computer Science*, Adjunct Assistant Professor—B.S., University of Dayton, 1968.
- Kelly, Michael L. (1981), *Head Football Coach*, Assistant Professor (Administrative)—B.A., Manchester College, 1970; M.S., Ball State University, 1974.
- Kelly, Thomas J. (1989), *Aerospace Engineering*, Assistant Professor—B.S.A.E., University of Cincinnati, 1981; M.S., 1985; Ph.D., 1990.
- Kepes, Joseph J. (1962), *Physics*, Professor—B.S., Case Institute of Technology, 1953; Ph.D., University of Notre Dame, 1958.
- Kerns, Gerald E. (1967), *Political Science*, Professor—B.A., University of Wichita, 1961; Ph.D., Indiana University, 1969.
- Kimble, Charles E. (1973), *Psychology*, Professor—B.A., Baylor University, 1966; M.A., 1969; Ph.D., University of Texas, 1972.
- Kimbrough, R. Alan (1969), *English*, Professor—B.A., Carthage College, 1965; A.M., Brown University, 1966; Ph.D., 1974.
- Kissell, Theodore L. (1992), *Director of Athletics*, Associate Professor (Administrative) — B.A., Elmhurst College, 1969; M.A., Northern Illinois, 1972.
- Knachel, Howard C. (1972), *Chemistry*, Professor—B.S., University of Dayton, 1963; M.S., Ohio State University, 1969; Ph.D., 1971.
- Korte, John R. (1973), *Psychology*, Associate Professor—A.B., University of California, 1967; M.S., Purdue University, 1970; Ph.D., 1973.
- Kozar, Rev. Joseph F., S.M. (1985), *Religious Studies*, Assistant Professor—B.A., University of Dayton, 1969; M.A., 1973; M.Div., University of St. Michael's College, Toronto, 1976; Ph.D., 1989.
- Koziol, Andrea M. (1993), *Geology*, Assistant Professor — B.A., Boston University, 1983; Ph.D., University of Chicago, 1988.
- Kreiss, Robert A. (1989), *Law*, Associate Professor—B.A., Reed College, 1963; M.A., University of Oregon, 1965, Ph.D., 1968; J.D., Stanford University, 1977.
- Krieger, Michael T. (1983), *Library*, Associate Professor—B.S., Central Michigan University, 1972; M.L.S., Western Michigan University, 1976.
- Krugh, Janis L. (1987), *Languages*, Assistant Professor—B.A., Ohio Northern University, 1974; M.A., University of Toledo, 1979; Ph.D., University of Pittsburgh, 1986.
- Kunkel, Joseph C. (1964), *Philosophy*, Professor—A.B., Loyola University, Chicago, 1958; A.M., 1962; Ph.D., St. Bonaventure University, 1968.
- Kuntz, Kenneth J. (1969), *Psychology*, Associate Professor—B.A., Washington University, 1956; M.A., University of Cincinnati, 1963.
- Kurtz, Eleanor A. (1964), *Director, Kennedy Union*, Assistant Professor (Administrative)—B.A., University of Dayton, 1947; M.S., 1974.

- Lain, Laurence B. (1976), *Communication*, Associate Professor—B.S., Indiana State University, 1969; M.A., Ball State University, 1973; Ph.D., Ohio State University, 1984.
- Landers, Mary F. (1992), *Teacher Education*, Lecturer — B.S.Ed., Ohio University, 1965; M.Ed., Bowling Green State University, 1970; Ed.D., University of Cincinnati, 1977.
- Langa, Helen S. (1993), *Visual Arts*, Assistant Professor — B.F.A., Temple University, 1966; M.A., University of Colorado, 1978.
- Lang, Joseph E. (1981), *Computer Science*, Associate Professor—A.B., Thomas More College, 1964; M.S., University of Illinois, 1965; Ph.D., 1970; M.S., Wright State University, 1988.
- Lapitan, Antonio E. (1969), *Political Science*, Professor—A.B., University of the Philippines, 1954; M.A., Lehigh University, 1957; Ph.D., University of Oregon, 1968.
- Lasley, Thomas J., II (1983), *Teacher Education*, Professor—B.S., Ohio State University, 1969; M.A., 1972; Ph.D., 1978.
- Laubach, Lloyd L. (1980), *Health, Physical Education, and Sport Science*, Associate Professor—B.S., Central State University, Edmond, Oklahoma, 1961; M.S., University of Oregon, 1962; Ph.D., Ohio State University, 1970.
- Laufersweiler, Joseph D. (1963), *Biology*, Associate Professor—B.S., University of Notre Dame, 1952; M.Sc., Ohio State University, 1954; Ph.D., 1960.
- Lee, C. William (1982), *Chemical and Materials Engineering*, Associate Professor—B.S., National Taiwan University, 1976; M.S., University of Akron, 1979; Ph.D., Ohio State University, 1982.
- Lee, David R. (1982), *Management and Marketing*, Associate Professor—B.S., U.S. Air Force Academy, 1962; M.S.I.E., Purdue University, 1966; Ph.D., 1972. Reg. Prof. Engr.
- Leonard, Mary T. (1956), *Health, Physical Education, and Sport Science*, Associate Professor—A.B., Radcliffe College, 1948; M.S., MacMurray College, 1951; D.Ed., Boston University, 1960.
- Leonard, Thomas J. (1969), *Library*, Associate Professor—B.A., St. John's University, 1951; M.S., Kansas State Teachers College, 1956.
- Lestingi, Joseph (1992), *Mechanical and Aerospace Engineering*, Professor — B.C.E., Manhattan College, 1957; M.S., Virginia Polytechnic Institute, 1959; D.Eng. Yale University, 1966.
- Lewis, William F. (1980), *Management and Marketing*, Associate Professor—B.A., Spring Arbor College, 1967; M.B.A., Michigan State University, 1969; Ph.D., University of Cincinnati, 1976.
- L'Heureux, Conrad E. (1970), *Religious Studies*, Professor—B.A., St. Paul's College, 1962; M.A., Catholic University of America, 1966; Ph.D., Harvard University, 1972.
- Lightman, Allan J. (1988), *Electro-Optics*, Associate Professor—B.A.Sc., University of Toronto, 1963; M.A., 1965; Ph.D., Weizmann Institute of Science, Rehovot, 1971.
- Little, Gordon R. (1988), *Electro-Optics*, Assistant Professor—B.S., Ohio State University, 1966; M.S., 1970; Ph.D., 1973.
- Liu, Shiqiang (1990), *Materials Engineering*, Assistant Professor—B.S., Beijing University, 1967; Ph.D., University of Dayton, 1989.
- Lo, Szu-chia S. (1992), *Law Library*, Assistant Professor—B.A., Fu-Jen Catholic University, 1988; M.L.S., Indiana University, 1992.

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- Lokai, Clement B. (1980), *Computer Science*, Adjunct Associate Professor—B.S., University of Dayton, 1963; M.B.A., 1968.
- Loomis, John S. (1985), *Electro-Optics*, Professor—B.S., Case Institute of Technology, 1966; M.S., University of Illinois, 1968; M.S., University of Arizona, 1977; Ph.D., 1980.
- Lu, Chris C. (1976), *Chemical and Materials Engineering*, Associate Professor—B.S., Chen-Kung University, 1960; M.S., University of Missouri, 1966; Ph.D., University of Texas, 1972.
- Luke, Brian A. (1992), *Philosophy*, Assistant Professor—B.S.E.E., Washington University, 1984; Ph.D., University of Pittsburgh, 1992.
- McAdams, Ronald L. (1978), *Office for Computing Activities*, Assistant Professor (Administrative)—A.B., Manchester College, 1959; M.B.A., University of Dayton, 1978.
- McCloskey, John W. (1965), *Mathematics*, Professor—B.S., University of Dayton, 1960; M.S., Michigan State University, 1962; Ph.D., 1965.
- McCormick, Roger D. (1981), *Counselor Education and Human Services*, Associate Professor—B.S.Ed., Miami University, 1949; M.A., Ohio State University, 1957; Ph.D., 1969.
- McDonald, Jack P. (1969), *Office on Aging*, Associate Professor (Administrative)—B.S., University of Dayton, 1956; M.A., Indiana University, 1958.
- McDougall, Kenneth J. (1966), *Biology*, Professor—B.A., Northland College, 1957; M.S., Marquette University, 1959; Ph.D., Kansas State University, 1964.
- McGrath, Rev. John A., S.M. (1987), *Religious Studies*, Assistant Professor—B.A., University of Dayton, 1957; M.A., Ohio State University, 1962; S.T.L., University of Fribourg, 1966; Drs.Th., University of Nijmegen, 1968; Ph.D., University of St. Michael's College, Toronto, 1979.
- McKenzie, George J., S.M. (1959), *Languages*, Professor—B.A., University of Dayton, 1933; M.A., Ohio State University, 1948; Ph.D., Western Reserve University, 1961.
- Macklin, F. Anthony (1962), *English*, Associate Professor—A.B., Villanova University, 1960; M.A., 1963.
- Magnuson, Phillip C. (1981), *Music*, Professor—B.A., Duke University, 1971; M.M., University of Massachusetts, 1974; D.M.A., University of Wisconsin, 1977.
- Majka, Linda C. (1981), *Sociology, Anthropology, and Social Work*, Associate Professor—B.A., College of William and Mary, 1969; M.A., University of California, 1973; Ph.D., 1978.
- Majka, Theo J. (1983), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., College of William and Mary, 1969; M.A., University of California, 1972; Ph.D., 1978.
- Marcinowski, M. Gary, S.M. (1993), *Visual Arts*, Assistant Professor—B.F.A., Boston University, 1980.
- Markon, Elaine M. (1986), *Nuclear Medicine Technology*, Clinical Professor—B.S., Indiana University of Pennsylvania, 1966; M.S., Ohio University, 1972; Certificate, N.M.T., Nuclear Medicine Institute, 1975; A.R.R.T., 1975; C.N.M.T., Nuclear Medicine Technologist Certification Board, 1978.
- Marre, Kitayun E. (1966), *English*, Professor—B.A., University of Bombay, 1958; M.A., 1960; Ph.D., State University of New York at Buffalo, 1966.
- Marre, Louis A. (1965), *English*, Associate Professor—A.B., University of Notre Dame, 1961; M.A., 1963; Ph.D., 1972.

- Martin, Herbert W. (1970), *English*, Professor—B.A., University of Toledo, 1964; M.A., State University of New York at Buffalo, 1967; M.L., Middlebury College, 1972; D.A., Carnegie-Mellon University, 1979.
- Martin, Judith G., S.S.J. (1980), *Religious Studies*, Associate Professor—B.A., Medaille College, 1969; M.A., Union Theological Seminary, 1972; M.A., McMaster University, 1975; Ph.D., 1983.
- Maruyama, Robert K., S.M. (1984), *Computer Science*, Assistant Professor—B.S., University of Notre Dame, 1961; M.S., 1968; M.S., University of Dayton, 1984.
- Mashburn, Joe D. (1981), *Mathematics*, Associate Professor—B.S., Southern Missionary College, 1976; M.A., University of California, 1978; Ph.D., 1981.
- Massucci, Rev. Joseph D. (1987), *School of Education*, Assistant Professor (Administrative)—M.A., Catholic University of America, 1977; Ed.S., University of Dayton, 1988.
- Matczynski, Thomas J. (1987), *Educational Administration*, Professor—B.S., University of Dayton, 1964; M.S., 1968; Ph.D., Ohio University, 1971.
- Mathews, Stanley G., S.M. (1979), *Rector*, Associate Professor (Administrative)—B.A., University of Dayton, 1943; M.A., Western Reserve University, 1948; M.S.L.S., 1952.
- Matlack, Jayne K. (1993), *Visual Arts*, Assistant Professor — B.S., University of Delaware, 1983; M.F.A., Tyler School of Art of Temple University, 1993.
- Means, Michael H. (1963), *English*, Associate Professor—B.A., University of Wisconsin-Whitewater, 1955; M.A., Ohio State University, 1957; Ph.D., University of Florida, 1963.
- Merenski, J. Paul (1976), *Management and Marketing*, Associate Professor—B.S., Wright State University, 1971; M.B.A., 1972; Ph.D., University of Cincinnati, 1982.
- Metzger, James (1970), *Management and Marketing*, Adjunct Professor—B.S., Butler University, 1950; M.B.A., Xavier University, 1966.
- Mildrum, Herbert (1975), *Electrical Engineering*, Adjunct Associate Professor—B.E.E., University of Dayton, 1964; M.S.E.E., 1971.
- Miller, Dan E. (1978), *Sociology Anthropology, and Social Work*, Associate Professor—B.S., University of Iowa, 1970; M.A., 1972; Ph.D., 1979.
- Miller, L. Earl (1989), *Mechanical and Aerospace Engineering*, Associate Professor—B.S.E., University of Michigan, 1955; M.S., 1956; Ph.D., Ohio State University, 1974.
- Miller, Richard L. (1968), *Management and Marketing*, Associate Professor—B.S., Ohio State University, 1947; M.B.A., 1959; Ph.D., University of Cincinnati, 1981.
- Miller, Sheila F. (1989), *Law*, Instructor—A.B., Miami University, 1983; J.D., University of Cincinnati, 1987.
- Miller, Van V. (1988), *Management and Marketing*, Assistant Professor—B.A., University of Kansas, 1970; M.B.A., University of Missouri, 1975; M.A., University of New Mexico, 1981; Ph.D., 1984.
- Miner, George K. (1976), *Physics*, Professor—A.B., Thomas More College, 1958; M.S., University of Notre Dame, 1960; Ph.D., University of Cincinnati, 1965.
- Mohan, Nancy (1987), *Economics and Finance*, Associate Professor—B.S., Indiana University, 1975; M.B.A., Wright State University, 1977; Ph.D., University of Cincinnati, 1986.

Faculty

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- Montavon, Robert E. (1966), *Library*, Associate Professor—B.A., St. Charles College, 1955; M.A., Catholic University of America, 1962; M.S.L.S., 1965.
- Moon, Donald L. (1974), *Electrical Engineering*, Professor—B.S.E.E., West Virginia Institute of Technology, 1963; M.S.E.E., University of Toledo, 1966; Ph.D., Ohio State University, 1974.
- Moore, Kerrie A., (1993), *Library*, Instructor—B.A., University of Dayton, 1987; M.A., Wright State University, 1990.
- Morefield, Donald W. (1969), *Health, Physical Education, and Sport Science*, Assistant Professor—B.S. in Ed., University of Dayton, 1957; M.A. in Ed., Ball State University, 1967; Ed.S., University of Dayton, 1988.
- Morlan, Don B. (1977), *Communication*, Professor—B.S., Indiana State University, 1962; M.S., 1965; Ph.D., Purdue University, 1969.
- Morman, Paul J. (1990), *History*, Professor—B.A., University of Dayton, 1965; M.A., Bowling Green State University, 1966; Ph.D., Pennsylvania State University, 1973; M.S., State University of New York at Binghamton, 1984.
- Moroney, William F. (1990), *Psychology*, Associate Professor—B.A., Cathedral College, 1964; M.A., St. John's University, 1967; Ph.D., 1968.
- Morris, Jeffrey W. (1981), *Law*, Professor—B.A., Providence College, 1974; J.D., Washington and Lee University, 1977.
- Morrow, Gary W. (1988), *Chemistry*, Associate Professor—B.A., Ohio State University, 1984; Ph.D., 1988.
- Moss, L. Howard, III (1978), *Biology*, Clinical Associate Professor—B.S., University of Tennessee, 1960; M.S., 1961; Ph.D., 1967.
- Mosser, Kurt (1992), *Philosophy*, Assistant Professor—B.A., Southern Methodist University, 1979; M.A., University of Chicago, 1982; Ph.D., 1990.
- Mott, Robert L. (1966), *Mechanical Engineering Technology*, Professor—B.M.E., General Motors Institute, 1963; M.S.M.E., Purdue University, 1965. Reg. Prof. Engr.
- Moulin, Eugene K. (1968), *Counselor Education and Human Services*, Professor—B.A., Mount Union College, 1956; M.E., Kent State University, 1959; Ph.D., University of Toledo, 1968.
- Mueller, Steven D. (1976), *Counseling Center*, Assistant Professor (Administrative)—B.A., University of Dayton, 1974; M.A., 1976; Ed.D., University of Cincinnati, 1987.
- Mullins, Monalisa M. (1989), *Philosophy*, Instructor—B.A., St. Leo College, 1985; M.A., University of Dayton, 1987.
- Muñoz, Chris (1992), *Associate Provost for Enrollment Management*, Assistant Professor (Administrative) — B.A., California State University, 1970; M.S., University of Oregon, 1979.
- Murphy, Ellen M., O.P. (1971), *Communication*, Assistant Professor (Administrative)—B.A., Barry College, 1949; M.A., Loyola University, Chicago, 1956; M.S.Ed., University of Dayton, 1971.
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- Mushenheim, Harold G. (1965), *Mathematics*, Associate Professor—B.S., University of Dayton, 1955; M.A., University of Cincinnati, 1960; Ph.D., 1963.
- Myers, Kevin J. (1986), *Chemical and Materials Engineering*, Associate Professor—B.Cm.E., University of Dayton, 1981; D.Sc., Washington University, 1986.
- Myszka, David H. (1989), *Mechanical Engineering Technology*, Assistant Professor—B.S.M.E., State University of New York at Buffalo, 1985; M.S.M.E., 1989. Reg. Prof. Engr.
- Nagy, Kathleen (1990), *Medical Technology*, Clinical Assistant Professor—B.S., University of Dayton, 1981; M.T. (ASCP), 1981.
- Neff, Jerry L. (1990), *Mathematics-Teacher Education*, Lecturer—B.S., Otterbein College, 1953; M.A., Miami University, 1955; Ph.D., 1973.
- Nelson, Peter B. (1979), *Political Science*, Assistant Professor—B.S., Florida State University, 1969; B.S., Florida International University, 1973; M.S.M., 1975; Ph.D., University of Mississippi, 1982.
- Neufang, Gordon A., Jr. (1969), *Languages*, Associate Professor—B.A., University of Michigan, 1953; M.A., 1957; Ph.D., 1970.
- Niles, Fred (1985), *Visual Arts*, Associate Professor—B.S., Edinboro State College, 1964; M.A., University of Northern Colorado, 1974; M.F.A., Syracuse University, 1987.
- O'Boyle, Rosemary T. (1980), *Assistant Vice President for Student Development*, Assistant Professor (Administrative)—B.A., St. Bonaventure University, 1972; M.S. in Ed., 1978.
- O'Brien, James F. X. (1989), *Head Basketball Coach*, Assistant Professor (Administrative)—B.S., St. Joseph's University, 1974; M.B.A., University of Maryland, 1981.
- Odom, James R., Master Sergeant, U.S. Army (1990), *Military Science*, Instructor.
- O'Hare, J. Michael (1966), *Physics*, Professor—B.S., Loras College, 1960; M.S., Purdue University, 1962; Ph.D., State University of New York at Buffalo, 1966.
- O'Leary, Kimberly E. (1993), *Law*, Assistant Professor—B.A., Oberlin College, 1979; J.D. Northeastern University School of Law, 1982.
- O'Meara, Maureen F. (1986), *Languages*, Associate Professor—B.A., Trinity College, 1971; Ph.D., Cornell University, 1976.
- Oumlil, Abderrahman B. (1983), *Management and Marketing*, Associate Professor—B.S., Southwest Missouri State University, 1976; M.B.A., 1977; Ph.D., University of Arkansas, 1983.
- Overly, Donald E. (1989), *Educational Administration*, Assistant Professor—B.S., Ohio State University, 1956; M.S., University of Dayton, 1963; Ed.D., Indiana University, 1968.
- Pace, Richard R. (1993), *Economics and Finance*, Assistant Professor—B.S., SUNY College at Oswego, 1987; M.A., University of Rochester, 1992.
- Pair, Donald L. (1991), *Geology*, Assistant Professor—B.S., St. Lawrence University, 1983; M.Sc., University of Waterloo, 1986; Ph.D., Syracuse University, 1991.
- Palermo, Patrick F. (1971), *History*, Professor—B.A., Fordham College, 1966; M.A., State University of New York at Stony Brook, 1967; Ph.D., 1974.
- Palmert, Daniel F. (1977), *Registrar*, Assistant Professor (Administrative)—B.S., University of Dayton, 1950; M.B.A., 1978.

Faculty

- Palmert, Julia Ann (1975), *Human Ecology*, Assistant Professor—B.S., University of Dayton, 1952; M.S., Ohio State University, 1953. R.D., L.D.
- Pan, Yi (1991), *Computer Science*, Assistant Professor—B.E., Tsinghua University, 1982; M.E., 1984; M.S., University of Pittsburgh, 1988; Ph.D., 1991.
- Pasala, Krishna Murthy (1985), *Electrical Engineering*, Associate Professor—B.E., Andhra University, 1970; Ph.D., Indian Institute of Science, 1974.
- Patrouch, Joseph F. (1964), *English*, Professor—A.B., University of Cincinnati, 1958; M.A., 1960; Ph.D., University of Wisconsin, 1965.
- Payne, Elmer H. (1961), *Civil and Environmental Engineering and Engineering Mechanics*, Associate Professor—B.S.C.E., Washington University, 1958; M.S., 1961. Reg. Prof. Engr.
- Payne, Michael A. (1977), *Philosophy*, Associate Professor—B.A., Xavier University, 1966; M.A., Boston College, 1970; Ph. D., University of Georgia, 1972.
- Pedrotti, Leno M. (1987), *Physics*, Assistant Professor—B.A., Wright State University, 1981; Ph.D., University of New Mexico, 1986.
- Penas-Bermejo, Francisco J. (1991), *Languages*, Assistant Professor—B.A., Universidad Complutense, 1984; M.A., University of Georgia, 1986, Ph.D., 1991.
- Penno, Robert P. (1987), *Electrical Engineering*, Assistant Professor—B.S.M.E., Rose Hulman Institute of Technology, 1971; M.S.E.E., 1984; Ph.D., University of Dayton, 1987.
- Perna, Richard P. (1982), *Law*, Professor—B.A., Villanova University, 1971; J.D., 1975.
- Pestello, Fred P. (1984), *Sociology, Anthropology, and Social Work*, Associate Professor—B.A., John Carroll University, 1974; M.A., University of Akron, 1981; Ph.D., University of Akron-Kent State University, 1985.
- Pestello, H. Frances Geyer (1985), *Sociology, Anthropology, and Social Work*, Associate Professor—B.A., College of Wooster, 1973; M.A., University of Akron, 1977; Ph.D., University of Akron-Kent State University, 1983.
- Peterson, Richard E. (1957), *Mathematics*, Professor—B.A., Hiram College, 1955; M.S., Purdue University, 1957.
- Petrykowski, John C. (1985), *Mechanical and Aerospace Engineering*, Associate Professor—B.S., University of Wisconsin, 1975; M.S., University of Illinois, 1978; Ph.D., 1981.
- Phillips, Norman S. (1974), *Civil and Environmental Engineering and Engineering Mechanics*, Professor—B.A.E., Ohio State University, 1955; M.S.E., University of Dayton, 1968; M.S.Ed., 1983. Reg. Prof. Engr.
- Pici, Joseph R. (1965), *English*, Professor—B.S., University of Dayton, 1962; M.A., 1964.
- Ploeger, Bernard J., S.M. (1985), *Senior Vice President for Administration*, Assistant Professor (Administrative)—B.S., University of Dayton, 1971; M.S., Ohio State University, 1973; Ph.D., 1975.
- Polzella, Donald J. (1972), *Psychology*, Professor—B.A., University of Rochester, 1967; M.A., Bucknell University, 1969; Ph.D., University of Michigan, 1974.
- Popken, Douglas A. (1991), *Management Information Systems and Decision Sciences*, Assistant Professor—B.S., Cornell University, 1980; M. Engr., 1981; M.S., University of California, 1985; Ph.D., 1988.
- Prasad, Jayesh (1990), *Management Information Systems and Decision Sciences*, Assistant Professor—B.Tech., Indian Institute of Technology, Kharagpur, 1982; P.G.D.M., Indian Institute of Management, Calcutta, 1984.

- Putka, Rev. John S., S.M. (1991), *Political Science*, Lecturer—B.S., University of Dayton, 1960; S.T.B., University of Fribourg, 1967; M.A., St. Louis University, 1969; Ph.D., University of Cincinnati, 1979.
- Quinn, John F. (1970), *Philosophy*, Associate Professor—B.A., Gonzaga University, 1965; M.A., 1966; Ph.L., Mount St. Michael's College, 1966; M.A., University of Washington, 1968; J.D., University of Dayton, 1982.
- Raisch, C. Daniel (1991), *Educational Administration*, Assistant Professor—B.S., Wilmington College, 1961; M.A., Wittenberg University, 1966; Ph.D., Miami University, 1973.
- Rajendran, A.M. (1988), *Mechanical and Aerospace Engineering*, Adjunct Associate Professor—B.S., University of Madras, 1968; B.Tech., Madras Institute of Technology, 1971; M.Tech., Indian Institute of Technology, 1973; Ph.D., University of Washington, 1980.
- Randall, Vernellia R. (1990), *Law*, Assistant Professor—A.A., Amarillo College, 1968; B.S., University of Texas, 1972; M.S., University of Washington, 1978; J.D., Lewis and Clark Northwestern School of Law, 1987.
- Rang, Jack C. (1979), *Communication*, Professor—B.S., Northwestern University, 1948; M.A., Aquinas College, 1965; Ph.D., Northwestern University, 1972.
- Rape, Roger N. (1993), *Psychology*, Assistant Professor—B.A., Westminster College, 1984; M.S., Virginia Commonwealth University, 1987; Ph.D. Virginia Commonwealth University, 1993.
- Rapp, John E. (1972), *Economics and Finance*, Professor—B.A., University of Missouri, 1959; M.A., 1960; Ph.D., 1964.
- Revere, Amie L. (1981), *Counselor Education and Human Services*, Associate Professor—B.S., Central State University, 1957; M.Ed., Miami University, 1970; M.S.Ed., University of Dayton, 1985; Ph.D., Miami University, 1985.
- Rhee, Tong-Chin (1967), *History*, Professor—B.A., Seoul National University, 1959; M.P.A., 1961; Certificate (M.A.), University of Wales, 1961; M.A., Lehigh University, 1962; Ph.D., Clark University, 1967.
- Rice, Bernard J. (1960), *Mathematics*, Professor—B.S., St. Louis University, 1955; M.S., Ohio State University, 1961.
- Richards, William M. (1970), *Philosophy*, Associate Professor—B.A., LeMoyné College, 1966; Ph.D., Georgetown University, 1970.
- Riley, John E. (1957), *Associate Dean of Students: Human Services*, Associate Professor (Administrative)—B.A., University of Dayton, 1952; M.A., Miami University, 1959.
- Ritter, Charles J. (1967), *Geology*, Professor—B.S., University of Dayton, 1959; M.S., Massachusetts Institute of Technology, 1962; Ph.D., University of Michigan, 1971.
- Roberson, Mary K. (1988), *Psychology*, Assistant Professor—B.A., University of Tennessee, 1979; M.A., Michigan State University, 1984; Ph.D., 1988.
- Roberts, Carole L. (1968), *Health, Physical Education, and Sport Science*, Assistant Professor—B.S. in Ed., Ohio State University, 1964; M.A., 1968.
- Roberts, William P. (1980), *Religious Studies*, Professor—B.A., Fordham University, 1955; M.A., 1957; Ph.L., Loyola Seminary, 1956; S.T.L., Weston School of Theology, 1963; Ph.D., Marquette University, 1968.

Faculty

- Robinson, James D. (1982), *Communication*, Associate Professor—B.A., University of the Pacific, 1978; M.A., West Virginia University, 1979; Ph.D., Purdue University, 1982.
- Roehm, Harper A. (1992) *Accounting*, Professor — B.A., DePaw University, 1957; M.B.A., Indiana University, 1963; D.B.A., Florida State University, 1972.
- Rogers, Dana B. (1982), *Electrical Engineering*, Professor—B.S.E.E., Arizona State University, 1962; M.S.E.E., Air Force Institute of Technology, 1969; Ph.D., University of Dayton, 1978.
- Rogus, Joseph F. (1981), *Educational Administration*, Kuntz Professor—B.S., University of Dayton, 1960; M.Ed., Miami University, 1962; Ph.D., Ohio University, 1968.
- Romaguera, Enrique (1969), *Languages*, Associate Professor—B.A., University of Dayton, 1965; M.A., Ohio University, 1966.
- Rooney, Victor M. (1966), *Electronic Engineering Technology*, Professor—B.E.E., University of Dayton, 1965; M.S.E.E., Ohio State University, 1970. Reg. Prof. Engr.
- Rosenzweig, Kenneth Y. (1981), *Accounting*, Associate Professor—B.A., University of Texas, 1965; M.B.A., University of Houston, 1968; Ph.D., Michigan State University, 1977; C.P.A., Ohio, 1980; C.M.A., 1980; C.I.A., 1983.
- Roten, Rev. Johann G., S.M. (1987), *International Marian Research Institute*, Associate Professor (Administrative)—B.Ed., Ecole Normales des Instituteurs, Sion, 1963; B.A., College of St. Michel, Fribourg, 1962; S.T.L., University of Fribourg, 1969; Lic.Phil., 1972; S.T.D., Pontifical University of the Marianum, 1987.
- Rowe, John J. (1977), *Biology*, Professor—B.S., Colorado State University, 1968; M.S., Arizona State University, 1971; Ph.D., University of Kansas Medical Center, 1975.
- Rowe, Joseph E. (1992), *Associate Vice President for Research and Director, Research Institute*, Adjunct Professor —B.S.E.E., University of Michigan, 1951; B.S.E., University of Michigan, 1951; M.S.E., University of Michigan, 1952; Ph.D., University of Michigan, 1955.
- Rowley, James B. (1989), *Teacher Education*, Assistant Professor—B.S., University of Dayton, 1969; M.S., Miami University, 1974; Ph.D., Ohio State University, 1989.
- Roy, James A., Major, U.S. Army (1993), *Military Science*, Professor—B.S., Worcester Polytechnic Institute, 1977; M.B.A., Boston University, 1980.
- Rueth, Thomas W. (1987), *Counselor Education and Human Services*, Associate Professor—B.S., University of Dayton, 1963; M.A., 1969; Ph.D., Loyola University of Chicago, 1973.
- Ruff, Lawrence A. (1960), *English*, Associate Professor—B.S., University of Dayton, 1958; M.A., Catholic University of America, 1959; Ph.D., Ohio State University, 1968.
- Sack, Laurence A. (1986), *Civil and Environmental Engineering and Engineering Mechanics*, Adjunct Assistant Professor—B.S.C.E., University of Dayton, 1981.
- Saintignon, Paula L. (1983), *Mathematics*, Lecturer—B.S., Bowling Green State University, 1978; M.S., University of Dayton, 1982.
- Saliba, Joseph E. (1980), *Civil and Environmental Engineering and Engineering Mechanics*, Associate Professor—B.S., University of Dayton, 1979; M.S., 1980; Ph.D., 1983. Reg. Prof. Engr.
- Saliba, Tony E. (1986), *Chemical and Materials Engineering*, Associate Professor— B.Cm.E., University of Dayton, 1981; M.S., 1982; Ph.D., 1986.

- Sandhu, Sarwan S. (1980), *Chemical and Materials Engineering*, Professor—B.Sc., Panjab University, 1961; B.Sc.C.E., 1966; M.Sc.E., University of New Brunswick, 1970; D.I.C., Imperial College, University of London, 1973; Ph.D., University of London, 1973.
- Sandness, Marilyn I. (1974), *Music*, Associate Professor—B.Mus., Eastman School of Music, 1958; M.Mus., New England Conservatory of Music, 1960. Reg. Music Therapist. Music Therapist, Board Certified.
- Sandy, Michael Reginald (1987), *Geology*, Associate Professor—B.Sc., Queen Mary College, University of London, 1980; Ph.D., 1984.
- Saphire, Richard B. (1976), *Law*, Professor—B.A., Ohio State University, 1967; J.D., Salmon P. Chase College of Law, 1971; LL.M., Harvard University, 1975.
- Sargent, Gordon A. (1985), *Mechanical and Aerospace Engineering*, Professor—B.Sc., Imperial College of Science and Technology, University of London, 1960; Ph.D., 1964.
- Sauer, David A. (1991), *Economics and Finance*, Assistant Professor—B.B.A., Pacific Lutheran University, 1981; M.B.A., University of Oregon, 1983.
- Saxton, Stanley L. (1977), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., University of Wisconsin, 1964; M.A., University of Iowa, 1969; Ph.D., 1973.
- Scarpino, Frank A. (1987), *Electrical Engineering*, Associate Professor—B.S.E.E., University of Cincinnati, 1963; M.S.E.E., 1970; Ph.D., University of Dayton, 1987.
- Schauer, John J. (1968), *Mechanical and Aerospace Engineering*, Professor—B.M.E., University of Dayton, 1958; M.S., Carnegie Institute of Technology, 1959; Ph.D., Stanford University, 1964.
- Schen, Joseph A. (1980), *Management and Marketing*, Associate Professor—B.B.A., University of Kentucky, 1970; M.B.A., Kent State University, 1972; D.B.A., 1976.
- Schieltz, Beverly A. (1989), *Medical Technology*, Lecturer—B.S., Miami University, 1979; M.S., Ohio State University, 1981.
- Schleppi, Carroll M. (1984), *Engineering Technology*, Lecturer—B.S., Chestnut Hill College, 1963; M.S., Ohio State University, 1965.
- Schleppi, John R. (1963), *Health, Physical Education and Sport Science*, Professor—B.S., Ohio State University, 1961; M.A., 1963; Ph.D., 1972.
- Schoen, Thomas A., S.M. (1959), *Computer Science*, Associate Professor—B.S., University of Dayton, 1954; M.A., University of Cincinnati, 1959.
- Schroer, Rev. Thomas A., S.M. (1981), *Counseling Center*, Assistant Professor (Administrative)—B.A., University of Dayton, 1965; M.A., St. Louis University, 1972; M.Div., 1972; Ph.D., California School of Professional Psychology, 1981.
- Schuerman, William C. (1985), *Vice President for Student Development and Dean of Students*, Associate Professor (Administrative)—B.A., University of Cincinnati, 1969; M.A., Michigan State University, 1971; Ph.D., American University, 1980.
- Schweikart, Larry E. (1985), *History*, Associate Professor—B.A., Arizona State University, 1972; B.A.Ed., M.A., 1980; Ph.D., University of California, Santa Barbara, 1984.
- Searcy, E. Dale (1976), *Law*, Professor—B.S., General Motors Institute, 1959; J.D., Indiana University, 1963; LL.M., New York University, 1966.
- Sekely, William S. (1976), *Management and Marketing*, Associate Professor—B.S., Allegheny College, 1966; M.B.A., Case Western Reserve University, 1970; D.B.A., Kent State University, 1975.

Faculty

- Selka, Lawrence L. (1968), *Communication—Theatre*, Assistant Professor—B.S., Bowling Green State University, 1954; M.A., 1963.
- Servais, Ronald A. (1974), *Chemical and Materials Engineering*, Professor—B.S. in A.E., Parks College, St. Louis University, 1963; M.S., 1966; D.Sc., Washington University, 1969. Reg. Prof. Engr.
- Shah, Tauqire H. (1984), *Computer Science*, Assistant Professor—B.S., University of Punjab, 1971; M.S., Wright State University, 1983.
- Sharp, Daniel D. (1987), *Manufacturing Engineering Technology*, Assistant Professor—B.S., Central Missouri State University, 1981; M.S., University of Southern Mississippi, 1987.
- Shaughnessy, Gerald J. (1967), *Mathematics*, Associate Professor—B.S., University of Dayton, 1963; M.S., Florida State University, 1964.
- Shaw, Carol M. (1968), *Chemical Technology*, Professor—B.S., Ohio University, 1963; M.S. in Ed., University of Dayton, 1968; M.S., 1973.
- Shaw, George B. (1967), *Civil and Environmental Engineering and Engineering Mechanics*, Associate Professor—B.C.E., University of Dayton, 1967; M.S.C.E., 1971. Reg. Prof. Engr. and Surveyor. Diplomate AAEE.
- Shaw, Lori E. (1988), *Law*, Instructor—B.S., University of Dayton, 1983; J.D., University of Dayton, 1987.
- Shereen, Faiza W. (1988), *English*, Assistant Professor—B.A., University of Alexandria, 1967; M.A., University of Dayton, 1975; Ph.D., University of Cincinnati, 1988.
- Shine, Andrew J. (1985), *Mechanical and Aerospace Engineering*, Adjunct Professor—B.M.E., Rensselaer Polytechnic Institute, 1946; M.M.E., 1947; Ph.D., Ohio State University, 1957. Reg. Prof. Engr.
- Siciliano, Carol J. (1964), *Health, Physical Education, and Sport Science*, Associate Professor—B.S.Ed., Bowling Green State University, 1959; M.A.Ed., Western Reserve University, 1962.
- Simon, Marvin D. (1987), *Manufacturing Engineering Technology*, Professor—B.S.M.E., University of Cincinnati, 1956; M.B.A., University of Dayton, 1978.
- Simons, Linda K. (1975), *Library*, Associate Professor—B.S., University of Illinois, 1969; M.S., 1972; M.B.A., University of Dayton, 1983.
- Singer, Sanford S. (1972), *Chemistry*, Professor—B.S., Brooklyn College, 1962; M.S., University of Michigan, 1964; Ph.D., 1967.
- Sinha, Atish P. (1991), *Management Information Systems and Decision Sciences*, Assistant Professor—B.S., University of Calcutta, 1980; B.Tech., 1984; M.Tech., 1986, Ph.D., University of Pittsburgh, 1992.
- Siporin, Clifford (1989), *Biology*, Adjunct Associate Professor—B.S., State University of New York at New Paltz, 1971; M.S., University of Dayton, 1973; Ph.D., 1976.
- Skill, Thomas D. (1984), *Communication*, Associate Professor—B.A., State University of New York at Buffalo, 1978; M.A., 1980; Ph.D., 1984.
- Skudlarek, William J. (1986), *Computer Science*, Adjunct Instructor—B.S., University of Dayton, 1971; M.B.A., Pepperdine University, 1979.

- Smith, Barbara A. (1989), *Computer Science*, Associate Professor—B.A., St. Louis University, 1976; M.S., University of Missouri, 1980; Ph.D., 1988.
- Smith, David B. (1992), *Accounting*, Professor, Ernst and Young Faculty Scholar of Accounting — B.A., Carleton College, 1970; M.B.A., University of Pennsylvania, 1973; Ph.D., University of Illinois, 1979.
- Smith, Michael G. (1991), *History*, Assistant Professor—B.A., John Carroll University, 1982; M.A., John Carroll University, 1985.
- Smith, Pamela Gulley (1990), *Counselor Education and Human Services*, Assistant Professor—B.A., University of Cincinnati, 1975; M.Ed., 1977; Ed.D., 1980.
- Snide, James A. (1974), *Chemical and Materials Engineering*, Professor—B.S., Ohio University, 1959; M.S., Air Force Institute of Technology, 1965; Ph.D., Ohio State University, 1975.
- Snyder, Linda June (1989), *Music*, Associate Professor— B.M., Miami University, 1970; M.M., University of Illinois, 1972; D.M.A., 1982.
- Stallworth, William L. (1990), *Law*, Assistant Professor—B.A., Cornell University, 1970; J.D., Harvard Law School, 1979; Ph.D., Stanford University, 1982.
- Stander, Joseph W., S.M. (1960), *Mathematics*, Professor—B.S., University of Dayton, 1949; M.S., Catholic University of America, 1957; Ph.D., 1959.
- Steiner, Thomas L. (1993), *Economics and Finance*, Assistant Professor — B.A., University of St. Thomas, 1985; M.A., University of Arizona, 1989.
- Steinlage, Ralph C. (1966), *Mathematics*, Professor—B.S., University of Dayton, 1962; M.S., Ohio State University, 1963; Ph.D., 1966.
- Stilwell, C. Dean (1990), *Management and Marketing*, Assistant Professor—B.S., Virginia Polytechnic Institute and State University, 1977; M.B.A., 1979, Ph.D., Georgia Institute of Technology, 1993.
- Stockum, Eleanore K. (1957), *English*, Associate Professor—B.A., College of St. Teresa, 1950; M.A., Marquette University, 1953.
- Strange, Jerry D. (1958), *Engineering Technology*, Professor—B.S., Otterbein College, 1958; M.S., Xavier University, 1964.
- Street, Paul Eric (1992), *Music*, Associate Professor — B.Mus., Cornell College, 1975; M.Mus., Indiana University, 1977; D.Mus., 1985.
- Stull, Paul A. (1974), *Biology*, Clinical Associate Professor—D.V.M., Ohio State University, 1966.
- Sudzina, Mary R. (1988), *Teacher Education*, Assistant Professor—B.S., Virginia Commonwealth University, 1970; M.A., Villanova University, 1974; Ph.D., Temple University, 1987.
- Sultan, Allen (1978), *Law*, Professor—A.B., Syracuse University, 1952; J.D., Columbia University, 1958; A.M., University of Chicago, 1961; LL.M., New York University, 1965.
- Summers, Donna C. S. (1984), *Industrial Engineering Technology*, Associate Professor—B.S.M.E., University of Cincinnati, 1982; M.S.I.E., Purdue University, 1984; Ph.D., University of Cincinnati, 1991.
- Sweeney, Patrick J. (1978), *Engineering Management and Systems*, Professor—B.S., University of Notre Dame, 1957; M.S., University of Missouri, 1967; Ph.D., University of Dayton, 1977. Reg. Prof. Engr.

Faculty

- Talbert-Johnson, Carolyn (1991), *Teacher Education*, Assistant Professor — B.A., Ohio Dominican College, 1976; M.A., Ohio State University, 1978; Ph.D., 1991.
- Taylor, Annette M. (1988), *Communication*, Assistant Professor—B.A., Michigan State University, 1974; M.A., 1988.
- Taylor, Bruce M. (1967), *History*, Associate Professor—B.A., Dartmouth College, 1957; M.A., Columbia University, 1962; Ph.D., Fordham University, 1973.
- Taylor, David L. (1971), *Biology*, Clinical Associate Professor—B.A., Wittenberg University, 1963; M.S., West Virginia University, 1965; Ph.D., 1968.
- Taylor, Philip H. (1988), *Electro-Optics*, Adjunct Assistant Professor—B.S., State University College at Oneonta, 1980; Ph.D., Pennsylvania State University, 1984.
- Taylor, Ronald F. (1989), *Mechanical and Aerospace Engineering*, Associate Professor—A.B., Wilmington College, 1967; M.S., Wright State University, 1970; Ph.D., University of Dayton, 1979.
- Taylor, Sandra K. (1978), *Sociology, Anthropology, and Social Work*, Assistant Professor—B.A., Ohio State University, 1970; M.S.W., Ohio State University, 1978.
- Tewari, Harish C. (1975), *Management and Marketing* Associate Professor—B.B.A., Delhi University, 1963; M.B.A., Central Michigan University, 1969; M.A., University of Cincinnati, 1974; Ph.D., 1977.
- Thebert-Peeler, Deborah L. (1992), *Materials Engineering*, Assistant Professor—B.S.M.S.E., Purdue University, 1977; M.S.M.E., University of Cincinnati, 1979; J.D., Salmon P. Chase School of Law, 1983; Ph.D., University of Dayton, 1992.
- Thiele, Gary A. (1979), *Electrical Engineering*, Tait Professor—B.S.E.E., Purdue University, 1960; M.Sc., Ohio State University, 1964; Ph.D., 1968. Reg. Prof. Engr.
- Thimmes, Pamela L., O.S.F. (1985), *Religious Studies*, Assistant Professor—B.S.Ed., Ohio University, 1970; M.A., Canisius College, 1979; M.A., Vanderbilt University, 1986; Ph.D., 1990.
- Thomas, Laura (1991), *English*, Assistant Professor — B.A., University of Wisconsin, 1975; M.A., Purdue University, 1976; Ph.D., Temple University, 1980.
- Thompson, Teresa L. (1985), *Communication*, Professor—B.A., University of Wisconsin, 1975; M.A., Purdue University, 1976; Ph.D., Temple University, 1980.
- Thompson, Rev. Thomas A., S.M. (1987), *Marian Library*, Associate Professor (Administrative)—B.A., University of Dayton, 1958; M.A., University of Pittsburgh, 1963; S.T.L., University of Fribourg, 1968; Ph.D., University of Pittsburgh, 1977.
- Tibbetts, Paul E., Jr. (1969), *Philosophy*, Professor—B.A., Clark University, 1964; M.A., Boston University, 1965; Ph.D., Purdue University, 1973; Ph.D., University of Illinois, 1985.
- Tiller, Kathleen (1983), *Library*, Assistant Professor—B.S., University of Wisconsin, 1971; B.A., University of Wisconsin-Milwaukee, 1981; M.L.S., 1983; M.A., University of Dayton, 1990.
- Tillman, Beverly A. (1990), *Teacher Education*, Assistant Professor—B.S., Miami University, 1974; M.A., University of Michigan, 1975.
- Tolson, William E., Captain, U.S. Army (1993), *Military Science*, Assistant Professor—B.A., Florida Institute of Technology, 1984; M.S., Florida Institute of Technology, 1992.
- Tsonis, Panagiotis A. (1989), *Biology*, Associate Professor—B.S., Patras University, 1977; M.S., Nagoya University, 1980; Ph.D., 1983.

- Tsui, Susan L. (1965), *Library*, Associate Professor—B.A., National Taiwan University, 1961; M.S.L.S., University of Illinois, 1964.
- Turner, Dennis J. (1974), *Law*, Professor—B.A., Georgetown University, 1967; J.D., 1970.
- Tuss, Alex J., S.M. (1991), *English*, Assistant Professor—B.S., University of Dayton, 1971; M.A., 1977; Ph.D., Fordham University, 1991.
- Tuthill, Theresa A. (1991), *Electrical Engineering*, Assistant Professor—B.S., University of Rochester, 1984; M.S., 1986; Ph.D., 1991.
- Ulrich, Lawrence P. (1964), *Philosophy*, Professor—B.A., Catholic University of America, 1961; M.A., 1962; M.Ed., Xavier University, 1964; Ph.D., University of Toronto, 1972; M.S., University of Dayton, 1985.
- Untener, Joseph A. (1987), *Mechanical Engineering Technology*, Associate Professor—B.M.E., General Motors Institute, 1984; M.S., Purdue University, 1985. Reg. Prof. Eng.
- Vesper, Mary Jo (1982), *Biology*, Associate Professor—B.A., Thomas More College, 1973; M.S., Ohio State University, 1975; Ph.D., 1978.
- Vieson, Rev. Paul F., S.M. (1985), *History*, Assistant Professor—B.A., University of Dayton, 1962; B.S.Ed., 1964; S.T.B., University of Fribourg, 1968; M.A., University of Chicago, 1972; M.A., St. Louis University, 1974; Ph.D., University of Chicago, 1987.
- Vlahos, George E. (1978), *Management Information Systems and Decision Sciences*, Professor—B.S., University of Illinois, 1964; M.S., Southern Illinois University, 1967; Ph.D., University of Northern Colorado, 1974.
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- McConnon, Margaret E. (1990), *Graphic Design Specialist*—B.A., Northern Arizona University, 1982.
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- Murray, Paul T. (1982), *Research Chemist*—B.S., University of Cincinnati, 1974; Ph.D., University of North Carolina, 1979.
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UNIVERSITY OF DAYTON GRADUATE AND UNDERGRADUATE ACADEMIC CODES

ACC	Accounting	HEG	Human Ecology—General
AEE	Aerospace Engineering	HST	History
AMS	American Studies		
ANT	Anthropology	IDE	Interior Design
ART	Fine Arts	IET	Industrial Engineering Technology
		IND	International Development Studies
BCM	Biochemistry	INS	International Studies
BIO	Biology		
CHM	Chemistry	LAW	Law
CIE	Civil Engineering	LNG	Languages
CIS	Computer Information Systems		
CME	Chemical Engineering	MAT	Materials Engineering
CMM	Communication	MBA	Graduate Business Administration
CPS	Computer Science	MCH	Church Music
CPT	Chemical Process Technology	MCT	Mechanical Engineering Technology
CRC	Corrections	MED	Premedicine
CRJ	Criminal Justice	MEE	Mechanical Engineering
CRL	Law Enforcement	MET	Medical Technology
CTT	Cytotechnology	MFG	Manufacturing Engineering Technology
		MGT	Management
DEN	Pre dentistry	MIS	Management Information Systems
ECA	Economics	MKT	Marketing
ECO	Economics	MPA	Public Administration
EDA	Educational Administration	MSC	Management Science
EDC	School Counseling	MTH	Mathematics
EDE	Elementary Education	MTY	Music Therapy
EDH	Health Education	MUC	Music Composition
EDL	Educational Leadership	MUE	Music Education
EDP	Physical Education	MUP	Music Performance
EDS	Secondary Education	MUS	Music
EES	Exercise Science and Fitness Management	MUT	Music Therapy
EET	Electronic Engineering Technology		
EGM	Engineering Mechanics	NMT	Nuclear Medicine Technology
EGR	Engineering		
EHD	Education of the Handicapped	PCS	Physics—Computer Science
EHS	Health Information	PHL	Philosophy
EKP	Kindergarten-Primary Education	PHO	Photography
ELE	Electrical Engineering	PHY	Physics
ENG	English	POL	Political Science
ENM	Engineering Management	PSC	Physical Science
EOP	Electro-Optics	PSY	Psychology
ESM	Sport Management	PTY	Photography
EVT	Environmental Engineering Technology		
		REL	Religious Studies
FAE	Fine Arts		
FDV	Family Development	SOC	Sociology
FIN	Finance	SPN	Spanish
FRN	French	STA	Fine Arts
GEN	General Studies	THR	Theatre
GEO	Geology		
GER	German	VCD	Visual Communication Design
HEA	Food and Nutrition—Dietetics	WST	Women's Studies
HEN	Food and Nutrition—Nutrition		